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Address.

ANCIENT AND MODERN CONCEPTION OF SYPHILIS.

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON CUTANEOUS MEDICINE AND SURGERY, AT THE FIFTY-SECOND ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

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CHICAGO.

During the centuries that have elapsed since syphilis was demarcated as a definite disorder nosologically, views have appeared, disappeared, and reappeared as to its origin and relation to other disorders. Dominance of judicial astrology, at the time of the Naples epidemic, led Steber, of Vienna, in 1494, to claim syphilis as a new disease, due to the conjunction of planets. Grünbeck, of Burkhausen, in 1496, charged the disease to the work of Saturn and Mars causing corruption of the blood and bile. Leoniceno, of Lombardy, about the same period, was skeptical as to the occult factors of the origin of the disease. He disbelieved in the origin in divine wrath against blasphemy, which led the emperor Maximilian to issue an edict. He also disbelieved in judicial astrology, and charged the epidemic to a certain unseasonableness of the air. He pointed out that in 1494 inundations occurred all over Europe, and that it was not surprising that in the wake of such phenomena the summer atmosphere acquired those hot and moist qualities which physicians and philosophers regard as the generating cause of all putrid germs. Inundations rapidly develop a general putrefaction of the air and soil. They may not only determine pestilential affections —*pestilentia*—like those in the 15th century, but also prepare for other diseases in the future.

Here, Leoniceno forms a conception of the relations of syphilis to general nosology, which has since maintained its own. While syphilis has since been endemic, it rarely assumes a type which could be denominated epidemic. About the time of Leoniceno, the view was entertained that syphilis was leprosy modified by coincident nosologic factors. Many 15th and 16th century physicians believed that syphilis arose from the stings of venomous insects. Indeed, Americus Vespucci claimed that the Indian women used venomous insects to stimulate the genitals of their lovers. In all probability, the peculiarly marked adenopathic character of the epidemic of the 15th century played a large part in lending credence to this venomous insect hypothesis. The adenopathic character of syphilis sometimes appears to-day to an extent that at once puzzles and interests the syphilographer.

No great epidemic has appeared since that of the 15th and 16th centuries. Epidemics of every disease, in the 15th, 16th and 17th centuries, exhibited a decided adenopathic tendency. Constitutional peculiarities at that time doubtless played a large part as predisposing causes, just as the neuropathic tendency of the present day plays a large part in the production of the luetic neuroses.

About 1540, the furibund character of syphilis began to disappear. Probably inherited immunity played a part in this, as well as the fact that the Galenic physicians, stirred by the assaults of Paracelsus, took a more active part in treatment. Antoine Lecocq, in 1540, noticed that syphilis begun to lose its furibund, galloping character. Fracastor, at the same time, remarked that the disease had been markedly modified. Patients had but few pustules and slight shin pains; but more gummata were observed. The hair exhibited a greater tendency to fall out; sometimes the teeth became loose and fell out. The attention of Rabelais was early attracted to syphilis, because his generous disposition drew him toward this neglected class of patients. In 1538 he made great efforts to reform the treatment of these patients at Paris. Rabelais had "often seen syphilitics when greased with mercurial ointment; their faces on edge like a knife and their teeth clacking like the keyboard of a broken-down organ."

ETIOLOGY.

The germ, or animalcular theory of disease, began to assume prominence early in the 17th century. Blankard, a Hollander, had stated: "In the seed of men, and in that moist matter which women carry in their wombs and in their sheaths, are found small animals, which, being venomous, corrupt not only the genital parts, but even, growing in time to large quantities, thrust themselves everywhere in the blood." By the middle of the century even the clergymen were acquainted with this theory. Thus, commingled with the fetichism of Cotton Mather, is found a chapter on the animalcular origin of disease, at the end of which, in describing remedies for this supposed source of distempers, he remarks: "Mercury, we know thee! But we are afraid that thou, too, will kill us if we employ thee to kill them that kill us! And yet, for the cleansing of small blood vessels and making way for the free circulation of the blood and lymph there is nothing like mercurial deobstruents."

Ballay, in the 18th century, claimed that the iguana to which Mark Lister charged syphilis, contained a "small species of animal" which he called venereal virus. He states, much less logically than Mather but in accordance with a view now strongly dominant, that mercury would not have the virtue of curing lues, were it not kept up by small insects, visible only under the microscope. Thirty years before, Ballay, Diedier and Desault had claimed that the venereal leven consisted of "imperceptible worms." Boerhaave strongly opposed,

and, in the opinion of his admirers, completely battered down the hypothesis of the imperceptible worm or animalcula.

The doctrine of disguised venereal diseases flourished. All unusual morbidities which could not be explained were attributed to concealed venereal disease without distinct symptoms. Furstenau charged hysterical phenomena to the driving in of a venereal virus by badly-directed treatment. Rosen, in 1764, made himself the apostle of this doctrine and accepted as hereditary some symptoms of recent syphilis in two 30-year-old patients. Van Swieten, in refusing to admit the heredity of syphilis, momentarily checked this theory. Stoll restored it to its dominance and Fabre was one of its warmest partisans. To a certain extent, this belief was an outgrowth of the tendency to demarcate diathesis which marked the time. Hahnemann, under the influence of this tendency, with that curious distortion of logic which so often suggests in him, paranoiac twist, ignoring the demonstration of the parasitic origin of the itch, charged psora or scabies with being a diathetic state having much more dangerous consequences than syphilis. "This thousand-headed monster of disease does," he remarks,[1] "cause internal affections (after eruptions sometimes containing only a few vesicles), accompanied by intolerable, voluptuous itching, and a peculiar odor. The psora—itch—is the only real, fundamental cause and producer of all the other numerous, I might say innumerable causes of disease—hysteria, mania, epilepsy, convulsions of all sorts, softening of the bones, cancer, gout, jaundice, cyanosis, dropsy, amenorrhea, hemorrhage from the stomach, lungs, nose, bladder and womb, paralysis, and pains of a thousand kinds, etc.—that figure in systematic works on pathology, as peculiar and independent diseases." Despite the demonstration in his time of the itch insect, Hahnemann permanently stamped this etiologic theory into modern homeopathic nosology and therapeusis.

To a certain extent, as to-day, teleologic notions anent the duty of the physician to preach sermons on debauchery in lieu of studying disease, increased this belief in disguised syphilis. Clinical recognition of the anomalies of syphilis, moreover, leads to a bias in favor of syphilitic etiology. Ricord, Dr. Oliver Wendell Holmes remarks, was the "Voltaire of pelvic literature, a skeptic as to the morality of the race in general, who would have submitted Diana to treatment with his specifics and ordered a dose of blue pill for the vestal virgins." While Buret and others have taken up the cudgels strongly for the purely specific nature of syphilis, still the modern trend of opinion strongly favors this 18th century notion, cleared of obscurity by 19th century biochemistry. The toxin of syphilis is now recognized as producing effects non-specific in character and resistant to antiluetic treatment. Lues, like all the great contagions, is now known to produce arrests of development resultant in defective constitutions.

During the 19th century a singular swerving occurred in views held as to lues. While, at the outset of the century, lues was considered as a disease modified by the constitution which it attacked, and the condition of that constitution at the time at which it occurred, by the middle of the century it was looked upon as a disease *per se*, which had little or no relation to constitution or to the patient's condition when attacked. In this particular, opinion concerning it followed the same evolution as views of other contagious diseases. The doctrine of specifics in therapy played no small part in determining this. Lues was likewise separated by nosologists from other diseases, on the teleologic ground that, not occurring in the lower animals, it was a product merely of human debauchery. This view of the disease appeared soon after the great epidemic of the 15th century. Many Galenic physicians, like too many English medical men of to-day, regarded it beneath their dignity to treat a disease of this kind. In England, despite the example of the great biologist, John Hunter, medical men still use venereal diseases merely as a starting point in practice. At the middle of the 18th century it was a common thing for beginners to establish dispensaries for this purpose. Smollett remarks, anent Fathom's attempt to secure practice: "The other means used to force trade, such as ordering himself to be called from church, alarming the neighborhood with knocking at his door at night, receiving sudden messages in places of resort and inserting his cures by way of news in daily papers had been so injudiciously hackneyed by every desperate sculler in physic, that they had lost their effect upon the public and therefore were excluded from the plan of our adventurer, whose scheme for the present was to exert himself in winning the favor of those sage sibyls who keep, as it were, the temple of medicine and admit the young priest to the service of the altar; but this he considered as a temporary project only, until he should have acquired interest enough to erect a hospital, lock, or infirmary, by the voluntary subscription of his friends—a scheme which had succeeded to a miracle with many of the profession who had raised themselves into notice upon the carcasses of the poor.

"Yet even this branch was already overstocked, insomuch that almost every street was furnished with one of these charitable receptacles, which, instead of diminishing the taxes for the maintenance of the poor, encouraged the vulgar to be idle and dissolute by opening an asylum to them and their families from the diseases of poverty and intemperance; for it remains to be proved that the parish rates are decreased, the bills of mortality lessened, the people more numerous, or the streets less infested with beggars, notwithstanding the immense sums yearly granted by individuals for the relief of the indigent."

The "lock" was then, as now, in England, the appellation of a hospital for venereal diseases.

Among the factors charged with the creation of the epidemic in Naples, was bestiality. This opinion was based on a theory that morphology of the contagion is affected by a culture medium. This opinion, experiments of Dr. G. F. Lydston have shown, there is reason to believe, since morphology of both the streptococcus and the gonococcus may be affected by the culture medium. The changeable nature of the vaginal secretions and the difference between human and animal vaginal secretions, were believed to have originated by fermentation—the peculiar qualities of the epidemic lues of the 15th century. While it was long thought that venereal diseases were unknown and incommunicable to animals, investigations during the last half of the 19th century demonstrated the existence of an adenopathic epidemic disorder among horses, known as dourine, and also as *maladie du coit*. This disorder, as Dr. R. J. Withers demonstrated a decade ago, before the Chicago Academy of Medicine, is in many particulars akin to furibund, adenopathic syphilis. It seems to bear the same relation to human syphilis that acute tuberculosis

1. Organon, p. 113.

of cattle does to human tuberculosis. Some medical reports of the epidemic of the 15th century refer to syphilis among horses and cattle. Probably much of this was dourine, since horses were then brought in great numbers from Arabia and from North Africa, where dourine is comparatively common.

The 18th century was marked by clinical demarcations of the different diseases charged to venery. In the early part of the century the distinction between gonorrhea and the other diseases had been pointed out, and had even been used by Swift in his "Tale of a Tub"; still, the disorder remained unnamed until the close of the century, when Swediaur revived the term gonorrhea, under which title—as etymology shows—the Greeks had placed indifferently, blenorrhagia, prostatic discharges and spermatorrhea. Two years after Swediaur, however, Hunter attempted to demonstrate that gonorrhea and lues were the same disease, and, through an undiagnosed lues in a gonorrheic, seemingly proved it. Tode, just before Hunter, had denied the possibility of luetic infection from gonorrhea. Hunter's experiment demolished the position of Tode and pointed out once more that error always lies in absolute assertions. Bell, in 1793, demonstrated that while gonorrhea and lues occasionally complicated each other, they were distinct disorders. The demarcation between hard and soft chancre was not established until 1852, by Bassereau, a pupil of Ricod. This distinction, even yet, is not totally accepted in therapeusis.

The problems of syphilography for the 20th century, as outlined by syphilographers in the 19th century and remote past are:

1. The early diagnosis of the disease where primary sore is either not recognized, as in extra, genital syphilis, or where it is abnormal.

2. The determination as to what predisposition produces the serious nervous and other consequences of tertiary lues.

Arising from this problem comes a secondary one: To determine the predispositions leading to the parasyphiloses. The next thing is to determine the influence of other diseases, whether malign or benign, upon syphilis. The bacteriology and bacterio-morphology of lues and other venereal diseases remain to be worked out. Practically, here, in regard to lues, there is not much advance beyond the guesses of the 17th century. In dealing with bacterio-morphology, the culture medium furnished by various lymphatic systems of man and animals needs determination. Since dourine in epidemic type has frequently to be dealt with by state veterinarians, material can be procured which would throw the same light on lues that lung plague in cattle has thrown upon pneumonia, and that cattle tuberculosis has thrown upon phthisis. In therapy, the problem is to avoid excesses of mercurialization and iodization, to treat secondary mixed infections and toxemias, and to treat the general systemic nervous exhaustion as well as the mental state of the luetic patient. Syphilographers practically must recognize that co-existent syphilophobia is almost as much of a physical depressant as syphilis itself.

Culices Make War on Anopheles.—Sir William MacGregor, governor of Lagos, British West Africa, in a paper read at the British Medical Association, stated that he had placed twenty each of the larvæ of the culex and the anopheles together in water. The anopheles were soon destroyed by the culices, showing that the latter might be made use of as an exterminator of the malaria-propagating anopheles.

Original Articles.

INTRA-UTERINE AMPUTATIONS.

PROBABLY CAUSED BY FIBRIN ABNORMALLY PRESENT IN THE LIQUOR AMNII.*

J. MAHER, M.D.,
OAKLAND, CAL.

Intra-uterine amputations are of sufficiently frequent occurrence to excite professional curiosity as to the causes which produce them. I wish briefly to call your attention to a case which occurred in my practice, and I do so perhaps more for the purpose of seeking light than of exploiting a theory.

Two and a half years ago, while officiating as obstetrician, I found a baby which had just been born minus some fingers and toes. I did not know of the abnormality until my attention was called to it by the nurse on the occasion of my next visit, some fifteen hours after the birth. I then found constricting bands of what appeared to be dried fibrin encircling several of the fingers and toes, which were evidently doing the amputating.

After the constrictions had been removed some of the members in the course of time fell off, having been strangulated to such an extent that they could not recover. Others remained and still show very distinctly, as you see by the photographs, the marks of the constricting bands. Fingers which had already been amputated were undergoing re-amputation at points nearer their origin. In other cases two members were cut off by one constriction and at the same time united to each other at the point of amputation. This happened to the two fingers involved on the right hand, which were afterwards separated by the knife.

The baby which was the first one was normal in all other respects and is to-day strong and vigorous. The parents are healthy. Family history is good. The second baby, now a month old, was born in normal condition.

It is not my intention to theorize, but I am inclined to the opinion that the trouble in this case arose from the abnormal presence of fibrin in the liquor amnii.

The causes of intra-uterine amputations, as given by the text-books, are: amniotic bands, inflammations, intra-uterine fractures, and constrictions by the cord. It would seem reasonable also that the amniotic bands so called might be due to fibrin deposited upon a part from the liquor amnii in the same way that it is deposited by whipping fresh blood, constricting the part, causing arrest of development beyond the point of constriction, and subsequent amputation.

The liquor amnii during the first half of pregnancy being almost pure blood serum, this phenomenon might be caused in the same manner as thrombus, embolus, or heart-clot. The liquor amnii may be open to unknown sources of contamination or the accidental introduction of the so-called fibrin ferment and the membranes could offer but poor protection to a fluid so easily infected.

The exact origin of the amniotic bands is not stated in the books, but the majority of writers leave us to infer that they are *all* out-growths from the inner sur-

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee of the Section: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

face of the amnion, and here is where I wish to respectfully take issue with them.

Lusk says: "An abnormally small quantity of liquor amnii is, however, only of importance in the earlier stages of fetal development. If the amnion be not then separated from the fetus by an adequate amount of fluid, abnormal amniotic foldings and adhesions between the amnion and the surface of the fetus may take place. The so-called feto-amniotic bands thus formed may, by mechanical compression, result in various fetal deformities or in spontaneous intra-uterine amputation."

Muller says: "Adhesion between parts of the fetus and the amnion are favored by a deficiency in the amount of amniotic fluid. If these points of adhesion become firmer or vascular they may persist, and if the process develops at an early term of fetal life, the regular development at that point will be arrested, giving rise to morphological anomalies which consist in the failure of union between two parts, such as hare-lip, exstrophy of the bladder, etc. If these amniotic bands are attached to the edge of fetal cleavage the cavities are particularly likely to remain open, giving rise to ectopia."

Again, I quote from the "American Text-Book of Obstetrics": "Amniotic bands disturb the development of the extremities, chiefly by producing constrictions causing at the peripheral end edema or atrophy. If this strangulation takes place at a very early date of fetal life then the growth of that part will be greatly arrested, so that the peripheral end beyond the constriction is proportionately small; in other cases it produces death of the part and so-called spontaneous amputation." The same authority says: "It is now generally admitted that the existence of amniotic bands is one of the causes for intra-uterine amputation. This amputation usually takes place early in fetal life. Sometimes there are a number of these bands and they persist to the time of birth."

These writers describe exactly what happens. But I wish to suggest that adhesions between the amnion and the fetus are more apt to cause distortions, producing so-called monstrosities, than clean-cut amputations. In the case here presented, we have no good reason for believing that what occurred was the result of contact with the amniotic surface or of a lack of fluid. When we stop to consider the position of the fetus in utero with legs drawn in, and the arms flexed and folded, it appears to me quite improbable that these members ever come in such constant and intimate contact with the amnion as to become adherent, but that, being the parts which are free and in almost continuous motion, they pick up the fibrin from the liquor amnii when it is abnormally present.

The question arises, would such a deposit of fibrin with the consequent constriction and atrophy taken in connection with the movements of a vigorous baby amputate *any* limb? I have seen a case where both arms and both thighs were taken off at or about the junction of the middle and upper thirds. The subject of this mishap was until quite recently a member of the British Parliament.

Trailing Skirts.—Notices are posted in some places in Switzerland informing wearers of trailing skirts that they will be fined. At Ems, Prussia, trailers are not allowed in the public gardens.

ECTOPIC PREGNANCY, WITH REPORT OF A CASE OF OVARIAN PREGNANCY.*

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I do not believe that it is possible for an ectopic pregnancy to develop primarily in the peritoneal cavity, for the ovum can not be lodged securely in any one place sufficiently long to form chorionic attachments, and the peritoneal secretion would very soon destroy its vitality; the one or more cases of reported abdominal pregnancy, after removal of the uterus, were primarily tubal or ovarian, these organs not having been removed with the uterus.

Ectopic pregnancy must be primarily tubal, tubo-ovarian, or ovarian, but as it can not develop to term in any of these structures, it ruptures either into the folds of the broad ligament or into the peritoneal cavity; and if the chorionic attachments are not then destroyed, there is no reason why the pregnancy may not continue to term.

I believe that most cases reported as intra-peritoneal pregnancy are extra-peritoneal, having developed in the folds of the broad ligament, or having then separated the peritoneum from its attachment, either extending upward posteriorly, or anteriorly between the peritoneum and the abdominal wall.

A case recently reported, in *American Medicine*, by Drs. Cullen and Goldsborough as probably abdominal pregnancy resulting from rupture of the uterus, is evidently a case of extra-uterine pregnancy, being primarily tubal, which ruptured into the layers of the broad ligament, and then separated the peritoneum from the anterior abdominal wall; and when they entered the cavity containing the fetus and membranes they did not open the peritoneal cavity. I make this positive assertion, because I am sure that if they will carefully examine the uterus of the woman they will find it in a normal condition. I refer to this case because of the prominence of the parties, thereby emphasizing the fact that there is generally an error in the diagnosis of what is styled intra-peritoneal or abdominal pregnancy. While the pregnancy is primarily nearly invariably tubal, or tubo-ovarian, there are two cases recently reported where it is claimed to have been shown to be primarily ovarian; namely, the case of Dr. G. P. Anning and Mr. Harry Littlewood, and the case of Dr. Catherine van Tussenbroek, as will be seen in the following extract,[1] and in a letter from Dr. Bland-Sutton.

DR. G. P. ANNING and MR. HARRY LITTLEWOOD read a paper on a case of primary ovarian pregnancy with rupture fourteen days after last menstruation.

The patient was aged 28 years, married five months, with no previous pregnancy. Menstruation was usually normal. She was operated upon on August 27, 1900, for a ruptured ectopic gestation, about thirty-six hours after the rupture. About two pints of blood and clots were removed, and a small ovum about the size of a Barcelona nut was found. This fitted into a firm envelope composed of laminated clot. There was a rent in the right ovary leading to a cavity, which contained some blood; into this the ovum and its sac exactly fitted, clearly indicating the primary ovarian origin of the pregnancy. The right tube was removed, and showed no evidence of rupture. The left

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1. British Med. Jour., Jan. 12, 1901.

tube was examined and found normal. The cystic portion of the left ovary was removed. The patient made a good recovery. The specimens were shown, with microscopical sections of the ovum, the sac, and a portion of the ovarian wall.

MR. BLAND-SUTTON remarked that belief in ovarian pregnancy could be traced back more than two centuries, but a critical examination of recorded cases, showed that in some instances the supposed ovarian fetus was in reality a dermoid, and in others a sequestered fetus (lithopedion) in the broad ligament. In a few instances the account of the dissection was so careful and circumstantial as to leave the impression that the formation of the embryo in the ovary could not be denied. It must also be borne in mind that the modern cases prior to 1899 rested upon no safer evidence than the non-detection of the ovary during an operation or upon the postmortem examination of a person with an advanced extra-uterine gestation. Even so careful and judicious a writer as Dr. Farre did not deny the possibility of a spermatozoon entering an ovarian follicle, but he denied that any case of ovarian gestation had been satisfactorily proved. Mr. Bland-Sutton came to the same conclusion after a study of a much larger number of specimens than were available to Dr. Farre, and with the advantage of modern methods of histological research. His (Bland-Sutton's) investigations had been particularly directed to the very early stages, for he urged as a postulate that, if the ovum was really capable of being fertilized in its follicle, "an early embryo in its membranes contained in a sac in the ovary" should be forthcoming. He was convinced that the specimen now before the Society was an example of early ovarian pregnancy. The only possible objection that could be raised to this view depended on the fact that the authors had not taken any steps to prove that the "mole" had not been ejected through the celomic ostium of the tube (tubal abortion). He would not press this objection because he had sections of a more complete specimen which quite satisfied him that an ovum could be fertilized while in its follicle. Since the last meeting Mr. Bland-Sutton had visited Amsterdam, and through the courtesy of Dr. Catherine van Tussenbroek, had been able to see the early example of ovarian pregnancy described by her, and had brought back sections which would be available for inspection by any Fellow of the Society. The condition of the parts was exactly analogous to that of a tubal mole, so that for convenience of reference it would be spoken of as an "ovarian mole"; the blood corpuscles in the vessels of the villi were nucleated; there was no trace of a decidua in the ovarian follicle, and it was an interesting fact that in the clinical report of the case it was stated that a decidua had formed in the uterus, and a few days after the operation was discharged with the *douleurs d'accouchement*. The "mole," with its chorionic villi which had become the criterion for many cases of early tubal pregnancy, seemed likely, from this specimen, to become the criterion of early ovarian pregnancy also, and a large field of inquiry had thus been opened, for the condition known as blood cysts of the ovary would now require very careful investigation in the new light afforded by this specimen.

"LONDON, May 7, 1901.

"Dear Doctor Wathen:—The sac in the van Tussenbroek specimen contained an embryo. I satisfied myself on this point when examining the sections. That case is complete in every particular. Yours very truly, J. BLAND SUTTON."

"P. S.—No embryo was found in Anning's case. The van Tussenbroeck case was reported in extenso in the *Ann. de Gyn. et de Obstet.*, under the title "Un Cas de Grossesse Ovarienne."

By studying this extract carefully, and Dr. Sutton's letter, it will be clearly seen that in no case has an embryo ever been seen, and the assertion that there has been an embryo rests solely upon macroscopic and microscopic examination of the membranes. I contend that the opportunities for error in such examinations are so abundant that it is doubtful if we are justified in accepting such cases as genuine unless the embryo can be seen, as in the specimen I now exhibit, which must be accepted as positively ovarian, unless we deny that any case can be such with the tube not patulous in its entirety, with no closure of the outer extremity. By examining this specimen, you will see that the tube has not been ruptured in any place, but that the fimbriated extremity has become adherent to the sac cavity, which I claim is the result of an irritation caused at the time of rupture, and hemorrhage.

It is a well-known fact that, in all structures in the peritoneal cavity nature tries to protect the life of the individual by a rapid formation of adhesions to prevent further extension of injury, and why should there be an exception in this case?

As microscopic examinations show that sections taken from all parts of the sac from which the laminated clot containing the embryo was removed are positively ovarian tissue, there can be no doubt as to the impregnation having occurred in the Graafian follicle, and that the ovum never escaped from this cavity. Within the center of the laminated clot, there was an unbroken amnion containing an ounce of liquid, and an embryo of about six weeks' development in a state of perfect preservation, which can be seen by examining the specimen.

If ectopic pregnancy be diagnosticated before rupture, there is no operation in which the peritoneal cavity is opened that is more easily performed, or more successful. This may be accomplished by either the vaginal or the abdominal route. After the rupture has occurred, the selection of the method depends upon the condition existing. If the rupture is in the folds of the broad ligament, with few exceptions the operation can be completed successfully by the vaginal method; and I have within the last five years performed nine-tenths of my operations for ectopic pregnancy by this method, and have had but one death, which was the result of long delay and general sepsis before the operation. So demonstrated facts outweigh theory of those who oppose the vaginal route.

If the rupture is intra-peritoneal, the operation may often be performed by the vaginal method, and if conditions are encountered that can not be overcome, we may speedily open the abdomen and have the advantage of excellent drainage from below; this greatly aids convalescence, where the pelvic and abdominal structures have been extensively soiled with blood, which may have become infected by passage of germs from the bowel.

In cases of great shock, where the patient would probably die if an abdominal section were performed, we may control hemorrhage and establish drainage through an incision into Douglas' pouch, by bringing down the ruptured tube and applying a clamp over the bleeding point; this may be left in position, giving positive assurance that there will be no hemorrhage until the woman can be stimulated and gotten into a condition favorable for an abdominal section; it may be done without the administration of an anesthetic or greatly disturbing the woman. In fact, all operations for extra-uterine pregnancy before the end of the third month, where there is not great shock, may be performed so easily and so successfully that a description of methods is hardly necessary. This, however, is not true in cases that have continued to develop for several months or to term after rupture from the tube. In these cases, we would have no trouble were we able to remove the placenta and control hemorrhage. The dangers of sepsis and secondary hemorrhage are so great if the placenta

be left, that we are justified in encountering the dangers of hemorrhage in efforts at its removal. If we attempt to separate the placental attachment without facilities to control the blood-vessels speedily, our patient may die of hemorrhage before we can reach the bleeding points; therefore it is best to have a large assortment of long and varied-shaped forceps, which may be applied at many points before the separation of the placenta is attempted.

If we wait to apply the forceps to all points after the separation the hemorrhage may so obscure the surface that we can not succeed. It is nearly impossible in these cases to use ligatures to an advantage before the placenta is separated, but they may be applied afterward when we have controlled hemorrhage by forceps, just as we do when we control hemorrhage by forceps in the removal of uterine myomata; for the large vessels will then have become greatly contracted. Firm gauze pressure may aid in controlling hemorrhage.

Of course, there can be no well-established technique that will apply to every case, because in one ectopic pregnancy that goes to term we may open directly into the sac cavity and not expose any intra-peritoneal structures; while in another the peritoneal cavity will have been opened and the placenta found attached so widely that it seems nearly impossible to separate it without fatal hemorrhage. Again, the attachment may be such that the placenta and membrane may be separated without causing profuse hemorrhage. If in any case the placenta can not be or is not removed, a large opening should be made into the pouch of Douglas so as to establish free drainage, and if possible the fetal sac should be sutured into the lowest part of the abdominal incision, thereby protecting the peritoneal cavity.

DISCUSSION.

DR. A. GOLDSPOHN, Chicago—Every case that can be actually counted as a case of ovarian pregnancy is an object of much interest inasmuch as that question does not seem to be definitely decided. We know that Dr. Wathen is one of the advocates of the vaginal route. The difficulty about forceps, which he speaks of, to control hemorrhage and about not being able to ligate the arteries through the vagina is considerable and unnecessary. We know that extrauterine pregnancy is a sterile condition. Drainage and ventral hernia as objections to the ventral incision can be avoided. If the rupture has occurred some time back, so that the source of bleeding has certainly been occluded, that the hemorrhage is not continuing and has not been progressing, we then have an hematocele to deal with. To clean that out, the vagina is a good route, but when we are not certain that hemorrhage has been definitely stopped and that natural hemostasis has occurred, we have to operate, not simply to empty an hematocele, but also to stop hemorrhage. Then the route by abdominal section is to be preferred. Also, because many of these cases have some true gynecologic reconstruction work to be done, it can be done intelligently and to best advantage to the patient by means of an abdominal section.

DR. WATHEN, in reply—Dr. Goldspohn misunderstood me in relation to drainage. When I operate from below in a case of large hematocele, I drain because it is necessary, no matter whether the hemorrhage has stopped or not. We can not always tell that, but we generally can control it from below by opening and taking out the hematocele, bringing down the ruptured tube, and removing it. What I spoke of, in drainage, was that if we succeeded in operating from above and failed to take out the placenta, it would be well to drain. Where there is simply a freshly ruptured ectopic gestation, or no rupture at all, there would be no necessity for drainage unless you soiled the cavity yourself. I do not believe in drainage by the abdominal route. I have not drained for three years. I packed with gauze, but that is simply isolating infected areas. Per vaginam, where I remove infected or non-infected material, I always drain, using the drainage tube with gauze, and I get good results. I have not found the case yet of rupture into the broad ligament that I could not control from below. They all recovered, but one. They will always recover if you get them in time. If there is a little hemorrhage, gauze packing will readily control it.

GYNECOLOGY, ITS CONTRIBUTION TO GENERAL SURGERY.*

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As we stand upon the threshold of a new century, it is wise that we review the history of the past and garner its lessons for the future.

Until within the latter half of the Nineteenth Century, the practice of medicine had continued in quite the same general way as for the indefinite past. Even surgery, as a specialty, was so exceptional that, after my return from the army service as surgeon, in 1865, my revered master, Dr. Henry I. Bowditch, urged that I abandon my purpose of making surgery my life-work, with the statement that there was but one man in New England who, as a surgeon, obtained more than a competency.

The introduction of ether into general use, followed by the wide experience gained by a large proportion of our younger graduates in the civil war, gave to surgery in America a new impeteus, and this, with a very general advance in anatomic, pathologic and clinical knowledge, caused many to fit themselves very carefully, by a long period of study at the various centers of European learning. This enthusiasm has in no way abated, until now, by general consensus of opinion, American surgery is not surpassed, if equaled.

Gynecology is very naturally in origin a subdivision of obstetrics rather than surgery. The older works were usually styled, "Obstetrics and Diseases of Women," oftentimes adding, as did also the professorships, "and Children." This tended to the study of uterine and pelvic pathology rather from the medical than the surgical aspect, and hence arose the very general and now justly criticised methods of intra-uterine and vaginal medication.

The younger members of the profession can never understand the difficulties which hedged about the study of the pelvic pathologic conditions of women at a not very remote date. This was due quite as much to the prudish reserve of the profession as to that of the laity. Dr. Bennett in the preface to the first edition of his work entitled "The Inflammation of the Uterus," published in London, 1845, states, "that in England no examination, even of a married woman, is attempted by the most experienced practitioner unless there be very serious reason for such a step, and very frequently not even then. That this laudable sense of propriety is, however, often carried much too far by the members of the medical profession with us is well known to all who specially study uterine pathology. I might cite numerous illustrations of this fact. One alone will suffice to show how frequently examination is neglected by well-informed practitioners from false delicacy on their part and not that of their patients. A few

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months ago I was consulted by an unmarried female who had presented for eight years, not a few only, but all the symptoms of uterine polypus. During this period she had been attended for weeks and months at a time by five or six medical gentlemen of undoubted talent and ability, not one of whom ever proposed an examination. They must have suspected the disease. That person has repeatedly told me that she would at any time have submitted to an examination, had she been requested, so great was the intensity of her suffering. Delicacy carried to such an extent becomes absolutely criminal."

In my own student days I was carefully instructed to make a small hole in a sheet placed over the patient and through this to examine, and, if thought necessay, to thrust in the long cylindrical speculum, in the almost futile hope of adding to my knowledge. Even as late as 1869 I was obliged to seek in Germany opportunities for physical examination nowhere permitted in America.

Mr. I. Baker Brown was one of the most popular and prosperous of the younger surgeons of London, until after the publication of his very thoughtful and original work entitled, "The Diseases of Women," in 1864. In the surgical reparation of the injuries incident to childbirth he will ever be looked upon as a wise pioneer, but in the attempt to popularize his work he went a step too far for the conservative opinion of the time, and the active opposition of the profession forced him into obscurity and want.

Drs. Burnham and Kimball of Lowell, Mass., were illustrations of professional ostracism by men incapable of judging of their vastly superior merit. To the latter I am indebted for very much of value, and I esteemed his friendship as an especial honor; yet I was advised confidentially by one who was then a leading practitioner in Boston, that if I would succeed in Boston I must ignore him. Yet he performed 225 operations for ovariotomy with 69 per cent. of recoveries. He removed the uterus 12 times with 5 recoveries.

This was in a greater degree true of Dr. Horatio R. Storer of Boston. Educated in a most careful way, four years an inmate of the family of the immortal Simpson, and the editor of his works, he tried in vain to stem the tide of adverse popular medical opinion, and broken in health as a consequence, abandoned his profession. Yet these men made contributions to surgery which have rendered their names immortal. They placed upon a sure foundation the surgical removal of large uterine myomata, and Dr. Storer was the first deliberately to plan and execute the safe surgical cure of umbilical hernia. When this operation, now considered of so little danger, was first made known, the criticism and condemnation here was bitter and almost universal.

The peritoneal cavity and the knee-joint were then thought beyond the deliberate invasion of any surgeon who would maintain the respect and confidence of the medical profession. From a source least expected there arose a new teacher who became famous by dint of industry and a genius rarely surpassed in any field of labor —J. Marion Sims. Unlike McDowell, also from the South, Dr. Sims had had no foreign training. Educated in Charleston, S. C., he practiced in Montgomery, Ala., until on account of illness he removed to New York in 1853. He had worked out with remarkable perseverance, amid discouragements sufficient to have overcome most men, and had established the cure of vesico-vaginal fistula by the use of the silver wire suture, and won thereby a national reputation. Certain instruments were necessary in order to bring the parts within easy manipulation, and I shall never forget his telling me of the happy discovery which almost at once brought into general use the retracting speculum still called by his name. He had noticed that by placing his patient in the semi-prone position and retracting the perineum with his fingers, that the air pressure caused vaginal distention, which he called *ballooning* the vagina. One day, when desiring to examine a multiparous negress in her own cabin, he found himself without instruments. Chancing to see a large iron spoon, he bent back the handle and upon retracting with the spoon-bowl he at once saw the value of such an instrument, placing the entire vaginal vault under easy inspection and control.

When we contrast the difference between the use of the almost universal cylindrical tube, used since the days of the Romans until then, we may well understand the enthusiastic welcome of the new instrument. Dr. Sims is wisely considered the founder of a new department in surgery, since gynecology was almost at once raised from the level of empiricism to the dignity of a science.

The neglected work of Baker Brown was taken up and improved upon. It was not, however, until a number of his enthusiastic female friends organized for the founding of the Woman's Hospital of New York that the work under his hand received medical support. Conservatism hedged him about as with a high wall, while professional jealousy and criticism well-nigh crushed his sensitive spirit.

Ardent in his support of the cause of the rebellion, he would not remain under the flag of the United States, and owing to this he took up his residence in Paris. Here his genius found a new favoring field, and he was received with éclat in all the great centers of Europe. In 1865 he published his remarkable book under the modest title of "Notes on Uterine Surgery."

I first met him in Paris and the charm of his personality is as distinct in memory as yesterday. Upon his return to New York he associated with himself Drs. Emmet and Thomas and for some years it is probable that no one center of clinical teaching did so much to mold medical thought as the modest clinics held at the Woman's Hospital. So popular did his teaching become that the Board of Managers, out of a supposed respect for the modesty of the patients, voted to restrict the number of medical visitors to fifteen. This touched the dignity of Dr. Sims as personally offensive, and he tendered his resignation which in a somewhat similar feeling was accepted. He told me years after that he had always regretted this step as hasty and inconsiderate. The work in the Woman's Hospital continued under the masterful supervision of Drs. Emmet and Thomas, who made many contributions to gynecology of the highest value.

Although to Dr. Bobbs of Indiana is justly given the credit of having successfully performed cholecystotomy, it was undertaken, prompted by a mistaken diagnosis, he believing the enormously distended gall-bladder to be an ovarian cystoma. To Dr. Sims is justly awarded the honor of having, after a careful study of the pathology of biliary calculi, formulated and carried into successful execution the modern surgical intervention for the removal of the gallstones. He is entitled to be called the father of gall-bladder surgery.

In 1847, Prof. Charles D. Meigs, of Philadelphia, published a large volume upon, "Woman, Her Diseases

and Remedies." This continued a text-book of recognized reference until after my graduation. His teaching is given (in the form of letters) to his class, and he discusses colloquially with his genial "Helen," in a very free way, of her supposed diseases and manifold sufferings. Very little of profit came to the student from its study, and it is now chiefly valuable as a standard by which to gauge the ignorance rather than the knowledge of woman's diseases half a century ago. It is said the good Doctor made simplicity of living a virtue and showed its benefit in a well-preserved physique. He commended walking as the exercise for all, even of the profession. One of his famous sayings reported is the following: "The doctor who drives one horse has weak legs, he who drives two has a weak head."

Surgery can never repay the indebtedness which it owes to Drs. John L. and Washington L. Atlee of Pennsylvania. They revived the operation for ovariotomy in 1843 and were the first in the history of medicine to remove successfully both ovaries at one operation. The first successful ovariotomy ever performed, as is well known, was by Dr. McDowell in 1809. Dr. McDowell operated thirteen times with eight recoveries. The next ovariotomist in America was Dr. Nathan Smith, then professor of surgery at Yale College. His operation was performed July 5, 1821. The third was Dr. A. G. Smith of Danville, Ky., who assisted Dr. McDowell in some of his operations. This was performed in May, 1823. The fourth was Dr. D. L. Rogers of New York, who operated in 1829.

In 1830, Dr. J. C. Warren of Boston reported the thirty-third case on record. He first tapped and two weeks after removed the ovarian tumor. The ligature slipped. "Owing to the shortness of the pedicle, the ligature partially slipped off as soon as the scirrhus was taken away, and though the vessels were secured as fast as possible, they were so numerous and large that the patient in a short time sank from loss of blood." Dr. Warren concludes his remarks on the case and the result of the operation in these words: "The event of this case has led me to decline repeating the operation, and I should advise others to decline it unless there was some peculiar insulation of the tumor, as when it forms a hernia, or when it has a very long and narrow pedicle."

Dr. J. Bellinger of Charleston, S. C., who attempted an ovariotomy in 1828, operated successfully in 1835. No other successful ovariotomy was performed until that of the Atlees above referred to. Dr. Bellinger reports his operation as follows: "Incision extended to the ensiform cartilage; the tumor was removed by cutting the round and broad ligaments. Two arteries of considerable size were tied with animal ligatures, both ends of which were cut off close to the knot; a tumor in the pelvis was formed by the uterus distended with a large quantity of dark watery fluid which escaped by a rent made by the finger through the posterior wall. The patient was still living and in good health, May, 1847; menstruation never returned."

Dr. Vangirard reported in 1847 a case which had been tapped fifty times in three and one-half years. *Ether inhaled;* recovery. Dr. Atlee in 1849, reported two cases; chloroform mixture given. In 1850 he reported a case very troublesome because of a forcing out of the intestines, owing to a state of catalepsy produced by the chloroform mixture. Dr. J. H. Bigelow in 1849 removed a cyst weighing eight pounds; recovery—the first case which I find of recovery in Boston.

Dr. Bellinger's case is especially worthy of note, because of the use of the animal ligature, cut short, and the pedicle dropped back into the abdomen. Others had used animal ligatures prior to this date, but the ligatures were usually left long and brought out through the abdominal wound, that they might be removed later.

It was thought at this time by the profession in general that the previous surgical experience did not warrant surgical intervention. On this account, it made it even more difficult to stem adverse criticism than that which befell Dr. McDowell. In the publication of his experience[1] Dr. Atlee wrote: "I pledge myself to the profession to treat this subject in all truth and candor; to falsify, omit, or withhold nothing; and to write down errors, if such there be, in honesty and without fear, taking censure when deserved. In the decision of a matter of such weight to humanity, personal sacrifices ought to be utterly disregarded. If this operation is to be established, it must be on correct statements; if it fails on such testimony, it fails justly and forever. . . . Let the question therefore be met as it should be and its history be a record of truth." Dr. Atlee moved to Philadelphia, where he soon after performed his third operation, the first in the city, in March, 1849. The operation was denounced by the general profession, in the medical societies, and in the medical colleges. He was pointed out as a dangerous man. A celebrated professor, even in a published lecture, invoked the law to arrest him in the performance of the operation.

"The day before I operated upon my patient in Philadelphia, an eminent surgeon called upon her to assure her that she would certainly be dead in twenty-four hours after the operation. Twenty-four hours after the operation I requested him to visit her, and her condition was such that he could not believe she had been meddled with until I exposed the wound."

In 1852, the Northern Medical Association passed the following resolution: "That this Association, viewing the numerous fatal results ensuing upon ovariotomy and the many disasters arising from errors in diagnosis, unreservedly deprecates the frequent performance of this operation as detrimental to the best interests of science, and fraught with the most imminent hazard to life."

The following autumn, the same society reviewed the subject carefully and passed a resolution no less condemnatory.

Dr. Atlee was indefatigable in his researches upon the history of ovariotomy in every country and gathered a statistical table of 101 operations, which he published in April, 1845. In 1851, he published a new edition of his table, then containing 222 cases.[2]

There were in America 27 cases only. So slowly did ovariotomy find favor with the profession, because of the excessive mortality, that the total number of reported cases in the United States up to 1864 was only 117, of which nearly 60 per cent. recovered. Even as late as 1863, there are only three cases reported in that year, with two recoveries. From January, 1864, to October 10, 1871, the number rapidly increased to 622. Of this number, 246 cases, with 70 per cent. of recoveries, were operated upon by Dr. Atlee alone; 121 by Dr. Gilman Kimball, of Lowell, with 70+ per cent. of recoveries; 60 by Dr. A. Dunlap, of Ohio, with 80 per cent. recoveries; 28 by Dr. E. R. Peaslee, with 67+ per cent. of recoveries. Dunlap's cases show the highest

1. American Journal of Science, April, 1845.
2. Transactions of American Med. Assn., 1851.

percentage of recoveries. The total of the four operators give 455 cases, with an average of about 70 per cent. of recoveries. Total number of cases in the United States, 739.

The total number in Great Britain at the same date was 1006, the list being headed by Sir Spencer Wells with 440 cases, recoveries 74.54 per cent.; Charles Clay with 250 cases, recoveries 72+ per cent.; Thomas Keith 136 cases, recoveries 81+ per cent.; T. Baker Brown 120 cases, recoveries 70+ per cent.

In France up to 1867, there had been only 116 cases reported, with only 40.51 per cent. of recoveries. In Germany up to 1870, there were 180 cases, with 41.66 per cent. of recoveries.

The gravity of all these cases was greatly increased owing to the pathologic changes incurred by delay, as the rule then was not to attempt operation, because of the great fatality resulting from peritoneal injuries, until after twice tapping. Thus, extensive adhesions, reduction of vitality, etc., were the rule rather than the exception.

It is not my present purpose to follow the history of abdominal surgery beyond the advent of antiseptic teaching and practice. Owing to the indomitable heroism of the few already referred to, whose memory will be cherished, the battle over ovariotomy had been fought and won before our knowledge of wound infection had been placed upon a scientific basis. To a considerable degree this was also true, in favorable cases of uterine tumors.

To Drs. Burnham and Kimball, of Lowell, belongs the undisputed honor of being the first deliberately to plan and successfully carry into execution that which is now justly considered one of the greatest triumphs of modern surgery—the comparatively safe removal of uterine myoma.

All along the lines, however, the details of operative measures were actively contested; the treatment of the pedicle, the closure of the wound, the use of drainage, the character of sutures, dressings, etc. It is true that the mortality was still large, which has been so extraordinarily lessened by modern aseptic methods, the chief of which has been the making and maintaining of a wound free from septic infection.

Our profession has been and is justly a very conservative one, and, as a rule, new teaching, no matter how scientific the demonstration, has ever encountered adverse criticism. When I was a pupil of Mr. Lister, in Edinburgh, in 1870, he had a following of scarcely a half dozen pupils, and not a single professor but looked upon his methods with distrust and criticism. My own was the first case of ovariotomy with successful issue in Cambridge, and this as late as 1872, and even this did not meet the approval of my seniors, who declared it unfortunate, lest a number of fatal cases should result from the overweening enthusiasm of a young devotee to a new faith. About this date I found it difficult to obtain the presence even of a physician at my first operation, deliberately planned for the cure of hernia, lest it might be construed into a quasi-approval of that which was necessarily looked upon as a most dangerous operation.

In 1880, when I exhibited to a medical society the specimen of my first resection of the pylorus for cancer, it was met with universal criticism, as beyond the pale of legitimate surgery. My first intercurrent operation for appendicitis was in December, 1886. This was upon Dr. S. N———, to whom was due, quite as much as to myself, the credit of working out the problem, with the deduction that the danger to life would be sufficiently less by operating between the attacks to warrant the operation upon an individual when in a fair state of health. The problem was then a new one and chanced to be the first operation of the kind reported. The danger was generally considered too great to warrant the approval of surgical intervention.

The removal of a biliary calculus from the common duct with immediate suture, followed by easy recovery, October 26, 1889, the first case of this character on record, was criticised as a surgical improbability, although attested by several reputable surgeons who assisted me in the operation. These instances are cited to show the difficulties encountered by pioneers in that which is now considered the every-day work of hundreds of surgeons. It is said that the adventurous innovator of to-day in new fields of research becomes the conservative of to-morrow. Different periods of life have doubtless much to do in bringing about such changes of opinion. However, it is wise to consider, in some directions at least, if the pendulum of surgical opinion may not have swung already too far away from the central truth. It may be well to inquire, if we have not too many surgeons, unless indeed they are better ones, and if the training and preparation for this special work should not be more thorough and critical, since the surgeon should be the good physician and something more. A special training in pathology, bacteriology, a familiarity with anatomy that must ever be an unfaltering guide, and in addition to all, should not the surgeon be the mechanic, artisan, and artist—rare gifts, especially molded to fitness by long years of training!

In conclusion, we may summarize the contribution of gynecology to surgery as primarily the entire domain of pelvic, abdominal, and intestinal surgery. Gynecology, which only a quarter of a century ago was looked upon with disfavor and criticism by surgeons who stigmatized it as the "art of puttering," has become the chief cornerstone in the new edifice dedicated to surgery. Its contributions indirectly benefit every unfortunate sufferer from accident or injury, until indeed it is itself lost in the common weal to humanity and bids fair in the future to be relegated to the past simply as a name, a sort of structural hypothesis, upon the scaffolding of which, one series of earnest workers labored, until they met and joined hands with other zealous rivals, in giving to the twentieth century the surgery of to-day, a sure Art, well builded upon a well-established science.

A CASE OF LEPROSY—A CASE OF MULTIPLE NEVUS PIGMENTOSUS.*

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ST. PAUL, MINN.

The following case was seen in consultation with Dr. E. Boeckmann, March 13, 1901. The patient, J. J., 20 years of age, was born in Minnesota and has never been out of the state. His father, mother, two sisters and one brother are living and well. The other brother, older than this patient, died in May, 1898, of leprosy, from which he had suffered for about eight years. In infancy this brother had been nursed by a

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee of the Section: W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

woman who had two brothers, both of whom were lepers and were known to be such in that community. It should be stated that the father of my patient came from a leprous district in Norway forty years ago, but that there is no leprosy in the family history. The mother was born in Minnesota.

The patient presented the ordinary type of anesthetic leprosy, there being eruptions scattered about on different parts of the body. There was, however, a distinct tuber on the right wrist; there was marked thickening of the ulnar nerve on both sides, and numerous areas of marked anesthesia on different parts of the body. The patient had lost a great deal of hair and his eyebrows had nearly disappeared. He suffered from occasional attacks of fever and acute eruptions. A section cut from a nodule in the skin, which I have here for your inspection, shows numerous leprous bacilli. This case is probably an instance of the anesthetic form of leprosy, which, as is so commonly the case among the lepers in this part of the world at least, is becoming tuberous. I regret very much that I have not been able to present the patient.

My chief reason for reporting this case is that I desire to put it on record as the only case of leprosy known to have been born in the State of Minnesota, or indeed in this part of the country. You are all familiar with the statement, so frequently made, that all the cases of leprosy in the Northwest have had their origin in some leprous district of some other country, and that for some unexplained reason, the disease was never communicated to others here, although there has been abundant opportunity for such communication. This case puts the matter in a new light.

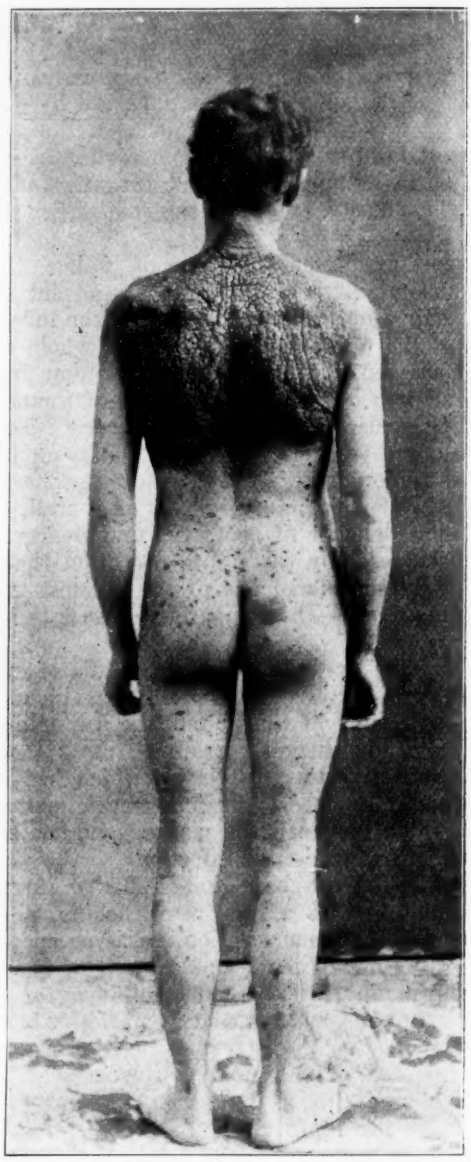
MULTIPLE NEVUS PIGMENTOSUS.

The history of this remarkable case may be told in a few words. N. G., aged 21, was born in Sweden; his family history is negative. He is a strong, well-developed young man, apparently healthy in all respects. The condition here presented existed at birth, and has not altered since, except that the large growth on the back has spread slowly during the last few years. There is a slight secretion from the deeper fissures of this growth and it has an offensive odor. With the exception of the large growth the moles are nearly all smooth and flat, with here and there a growth of hair, notably on the shoulders and right buttock. The question of malignancy must be answered by the future clinical history. The accompanying photograph portrays the appearance better than any description; hence, I shall attempt nothing further in that respect.

The microscopic report was made by Dr. J. C. Johnston,[1] from sections submitted taken from the large growth between the shoulders. Hematoxylin alone was used in staining.

Unna[2] has made a thorough investigation of these growths; so thorough, in fact, that it only remains for later investigators to confirm or disprove his findings on minor points. The tumor in question belongs to his class of "soft moles," which are carcinomata, and not endotheliomata, as claimed by Von Recklinghausen; these are developed, according to Cohnheim's theory, from epithelial cell nests, detached from the epidermis in fetal or early life. In many places in these sections connections can be traced between the cell masses and the covering epidermis, there being, apparently, no basement membrane.

The epithelium is not, as a rule, greatly thickened, although there is some increase in all its layers, but the rete pegs are enormously prolonged and form an anastomosing network. The basal layer is deeply pigmented in certain areas, however, not uniformly. In the meshes of the network and in the papillary body generally, are seen the rounded, snared-off masses of cells. Their borders are clearly demarcated, generally by connective tissue. The cells show oval, vesicular, deeply staining nuclei, their contours being made out with great difficulty. Further down in the cutis are seen columns of epithelial cells, oftenest horizontal, between the connective tissue bundles. The cells are closely packed; their nuclei are smaller, more elongated and less vesicular. More deeply, but still in the cutis, the cells are arranged in loose masses, more widely separated from each other, their outlines more clear and the nuclei larger than in any other situation. The appearances here strongly suggest a malignant carcinoma, except that there is no mitosis. Pigment is irregularly scattered through the cell masses and cords lying within and without the tumor elements. The appearance in the former case is often that of a nucleated clump of pigment granules. Vacuolation of the nucleus is frequently apparent, both in the new growth and in the epidermis.



1. Jour. Cutaneous and G.-U. Dis., March, 1899.
2. Histopathology, p. 1129.

In the cutis the lymph spaces are enormously dilated, but there is no proliferation of the lining endothelium. There is considerable proliferation of connective tissue cells. Careful search failed to show any trace of coil-glands or ducts; here and there, however, attached by solid cords to the surface, were groups having the structure of sebaceous glands, evidently tumor cells pursuing their physiologic course. In this tumor there is both epithelioma and acanthosis, i, e., epithelial proliferation with and without fibrillation, the latter, of course, occurring in the epidermic meshwork.

LUPUS VULGARIS?

I will ask you to help me make a diagnosis in the following case. The patient is 27 years of age, apparently perfectly sound, but for the cutaneous trouble, in physique is almost a giant; he is an operator with a publishing company here. At the age of 3 he began to have ulcers and sores on his body, which have never healed. They have pursued a varying course, sometimes the ulceration has been quite deep. When I first saw him it was for an ulceration on the wrist. There was not very much discharge, but there were two or three jelly-like nodules, which resembled lupus vulgaris. Some nine years ago this young man was treated with tuberculin and the eruption entirely disappeared, but it returned in about six weeks. My first thought, toward which I am still inclined, was, that this is a case of lupus vulgaris and lupus erythematous combined. I want you to note particularly the character of the scar on the wrist which, as you observe, is very soft and pliable. This was the result of treatment by superheated air after the Hollander method.

DISCUSSION.

DR. WILLIAM ALLEN PUSEY, Chicago—It seems to me this is a case of lupus vulgaris. Dr. Foster is in a better position to offer an opinion about the erythematous element than we are.

In connection with the leper case, I know of one interesting case of leprosy, in regard to development. It was a gentleman in good position who had lived in Chicago most of his life. He lived in New Orleans for two years, under good hygienic conditions. I saw the case several years ago with a typical tubercle of leprosy on his face. After that he went to Dr. Zeisler. He had lived in Illinois all his life except the two years he spent in Louisiana ten years ago.

DR. JOSEPH ZEISLER, Chicago—I believe with Dr. Foster that this is a very remarkable case. In my recollection of lupus I fail to remember a case where the disease was so remarkably free. It is unique to see a primary affection of the arm. Like Dr. Pusey I am not in a condition to see the erythematous element at present; the lesions are typical lupus.

DR. FOSTER—How about the scar?

DR. ZEISLER—I should say it was an unusually excellent scar for lupus.

DR. FOSTER—My diagnosis of erythema was from the scar.

DR. ZEISLER—As to treatment, I should use surgical means—cauterize each individual lesion.

DR. DOUGLASS W. MONTGOMERY, San Francisco—This I believe to be a case of lupus vulgaris. In regard to the nevus I should think that a pigmented sarcoma had developed from the nevus.

The case of leprosy is to me the most interesting of the three. The development of leprosy in this country is quite an important question, for it seems to be capable of developing over quite a large section of the country. We have always with us in California, and in San Francisco particularly, a great number of lepers, who are almost all immigrants, however, and it is very rare to find an instance of leprosy that has developed on the Pacific Coast. I have had two cases that could be said to have developed on what is called the Pacific Coast. A third case that I thought at first had developed there shows the difficulty of obtaining accurate histories. The patient was a physician, a woman, who had typical leprosy. She steadily denied ever having lived in what is called a leprous country and said she had lived in California only, and California can not be called a leper country. That remained as a fixture in my history of the case until some years later I found that her father had lived in Mexico and that she had been brought up there. Here was a patient, who was a physician, who knew about leprosy, who had studied her own case and knew the importance of the history, and yet told me that she had always lived in California and never admitted having lived in a leper country.

Of the two instances where I found leprosy to develop on the Pacific Coast, one was a man from Vermont or Massachusetts who had never been out of the United States except once for a few hours on the Canada Southern railway going West, the only part of that country he had ever visited. It was a long time after first getting his history that I found he had lived in a Chinese railroad camp, and I have no doubt that he then contracted the disease. Another instance was a woman born in Ireland. She came to New York and afterwards to San Francisco. Her husband was born in Ireland, had lived in Ireland, Boston and San Francisco and nowhere else. Their children were all born in San Francisco. The woman developed eruptions and when I saw her she was in the full bloom of tubercular leprosy. She denied any intercourse with lepers and denied knowing anything about leprosy, and denied association with Chinese. I found out afterwards that she had had for years in her house, as a boarder, a well-known leper, an American who had acquired leprosy in Hawaii. These instances show the difficulty of getting at the source of contagion. These are the only instances I have ever found of leprosy developing on the Pacific Coast, but that it does develop there is a very important finding.

DR. W. T. CORLETT, Cleveland—In regard to the first case, I agree with those who consider it a peculiar case of lupus vulgaris. I do not, however, see any erythematous element in it. The scar is very peculiar. I have in mind a case of symmetrically distributed eruption leaving a scar similar to this, which was the result of syphilis.

In regard to the nevus, it is a very striking case and I quite agree with Dr. Foster that it is at the present time a case of very marked nevus which will probably result in sarcomatous changes later on.

In regard to the case of leprosy reported by Dr. Foster, about three or four years ago there was reported before this Association two cases of leprosy occurring in the vicinity of Columbus, Ohio. I think in Dr. Morrow's article in the "Twentieth Century" these cases are regarded as leprosy. I have seen the cases and after careful consideration must differ from his diagnosis. If they be cases of leprosy they are ones which have developed in the State of Ohio, the patients never having left the state. The father had some mysterious eruption, which seems to give more direct history of syphilis than anything else. The only time he left the State of Ohio was during the war of the rebellion, when he was in the Southern states. I do not report these as cases of leprosy, for I think they are a peculiar form of syringomyelia, closely simulating the lesions of lepra.

DR. L. DUNCAN BULKLEY, New York City—I dislike to connect lupus vulgaris and lupus erythematosis in any way; for, while the nodules of lupus vulgaris have sometimes developed in the lesions of lupus erythematosis, there is in reality no connection or relation between the two diseases. In the present instance I should regard the whole process as that of lupus vulgaris, and think the scarring is quite compatible with this diagnosis; there are certainly some quite characteristic nodules of lupus vulgaris here and there.

In regard to the nevus, I quite agree that there is danger of the development of sarcoma. I believe that this will occur if he lives long enough.

As to the question of leprosy developing outside of leprous countries, there are enough cases now known to have originated in the United States to make it certain that this may

happen. The subject was pretty well thrashed out last year at Atlantic City. I have seen at least two such sporadic cases in New York City, and others have seen similar cases, where the patient had not been in a leprous country and no source of infection could be traced; these cases are, of course, very rare.

DR. SCHULER, Pittsburg—I only wish to speak of the migration of patients with leprosy. A case came under my care some years ago, of which I was perfectly ignorant at the time, but after looking it over I made up my mind that it was a case of tubercular leprosy. As soon as I intimated to the lady what was the matter with her she immediately left me and put herself in the hands of some other person, and continued passing from one to another until she landed in Johns Hopkins Hospital, where she died about two years ago. When I was trying to elucidate where she had lived and how she came by the leprosy, she denied ever having been out of the states of Pennsylvania and Ohio, but when she came near to death she told the rest of her history; that she had spent several years in the West Indies, and no doubt from that source she contracted her leprosy. I wanted to speak of the difficulty of getting a truthful history that you can trace back to a possible origin.

DR. WILLIAM FRICK, Kansas City—All seem to agree that this is a case of lupus vulgaris, and I did hope that the gentlemen would speak of the treatment by *x*-rays. I have had a case which was treated that way and with marked benefit.

I believe I have at present a case of leprosy in Kansas City and it has developed in the United States. The woman was born in Ireland, came very early to the United States, went around from one place to another, including Vicksburg, and for several years has been in Kansas City. She has had the disease for five years. It is principally in the face, with some nodules on the back. I have not been able to corroborate the diagnosis, but the clinical appearance seems to be that of tubercular leprosy.

DR. BURNSIDE FOSTER, in reply—I have been well aware of the fact that this was a case of lupus vulgaris, but not a typical one; and I had thought, on account of the appearance presented by the scars, that this might possibly be one of those cases which we sometimes see where lupus vulgaris and lupus erythematosus co-existed.

REPORT OF A CASE OF EPIDERMOLYSIS BULLOSA HEREDITARIA.*

L. E. SCHMIDT, M.S., M.D.
CHICAGO.

On account of the comparative infrequency of these cases, but not for any unusual circumstances in connection with it, the case is reported. W. Beatty, in 1897, gave a most complete review of the cases and literature up to that time. Rona, in 1899, was able to collect but 18 cases in the literature.

As in one case of Dr. Elliot, we find from the history that apparently this affection originated in the patient and was not inherited. In regard to this we know that there must be a starting point, and should there not be any hereditary influence in this case we can not point out why the boy is affected, as the clinical history does not differ from any one of those where we know an hereditary influence is present. Nevertheless, some authorities persist in calling it an hereditary disease.

In my case from its inception the second week after birth the parents believed that traumatism played a rôle in the causation of the bullæ. Nevertheless, after the greatest of care, but especially after the boy commenced to walk, the efflorescences continued to appear. The course in all these years has been about the same, neither does it vary as to the time of year.

As has been noticed by Elliot and others, the lesions do not leave any pigmentation, as we find so commonly among bullous eruptions. In these cases epidermal cysts, especially noted by Rona, are frequently seen after a bulla has healed, and these in turn quickly disappear and leave but a smooth, glossy, bright-red surface with the creases of the skin absent.

Edwin B.; age 9 years; presented himself for examination April 15, 1899.

Anamnesis.—Both the father and mother denied any hereditary nervous or blood diseases. All that could be ascertained was that their relatives had never been affected by any other than the ordinary diseases. The father is the third in a family of five, and was married at the age of 24 years. The mother is the fourth in a family of seven, and was married at the age of 23 years.

At present (June 1, 1901), they have been married thirteen years, and previously and since then have never been treated for any disease. Both parents regard themselves as perfectly well, although the mother for some years past has irregularities with her menstruations. Beyond this, nothing further can be elicited.

Two healthy boys, the second twenty-three months previous to the one in view, were born. This one was in all respects a normal labor, no forceps or other instrumentation required. Two years later, without any apparent cause, a miscarriage in the beginning of the fourth month occurred. The fourth and last boy was born four years ago. The three other boys seem to be perfectly well. They have had the ordinary diseases of childhood.

The boy under consideration was under 9 years of age; he was never seriously sick, although had measles and whooping-cough some years ago. At time of birth the patient was regarded as normal. No eruption on skin was noticed. Not until about the end of the second week, then commencing in the soles of the feet, just around the heels especially of both feet "water blisters," about the size of a split-pea, made their appearance. These were opened and treated with dusting powder. About the third month, small, regular, from pinhead to size of Lima bean, blisters appeared at irregular intervals on the dorsal surface of the hands and fingers. When he became old enough to walk, which was the usual time, bullæ up to the size of a large thumb-nail began to show themselves around the anterior surface of the knee, around the ankles, apparently especially over tendo Achilles. Beginning at the time, hemp-sized and small vesicles appeared on the dorsal surface of toes and both feet. Likewise bullæ about the elbow, especially over extensor surfaces, commenced to appear.

Apparently all these became more exaggerated since patient is able to walk and since he is open to traumatism; that is, these blisters came with more frequency, and usually became of quite large size. His mother states that the larger number of these blisters broke usually shortly after their appearance, and remaining contents would dry and in several days only the outer border of a blister would remain. The contents were usually clear, light yellow in color and slightly tenacious. But rarely would the contents become turbid or milky in appearance. If so, the parts became painful and swollen. It is only during the past four years that the contents of some bullæ occasionally become dark, bluish-purple in color. Both the nails of fingers and toes are affected

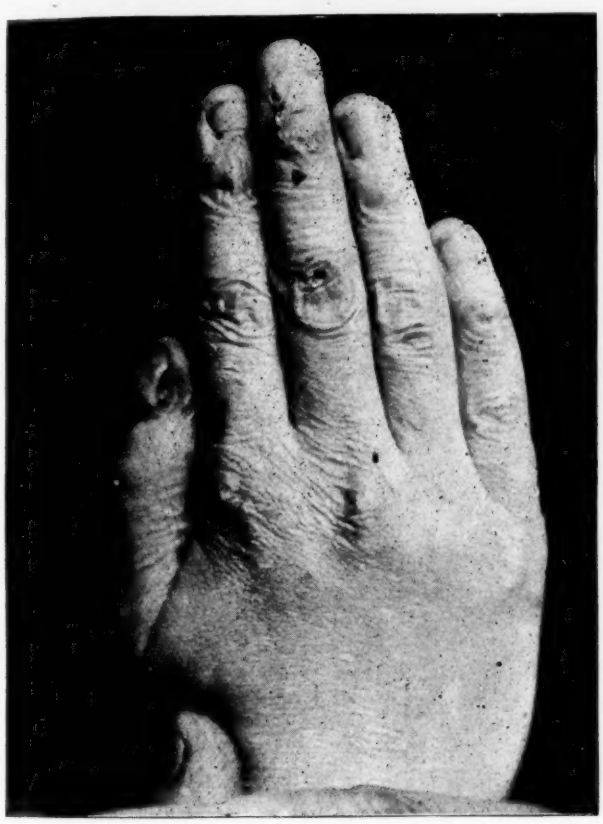
* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee of the Section: W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

and have been so as long as the mother can recall. Occasionally small blisters appeared in the external ears.

I have had the boy under observation for over two years. During this time repeated acute attacks of inguinal and axillary adenitis occurred. After a bulla became infected the corresponding glands would often become painful and greatly swollen almost within twenty-four hours. On physical examination of heart I have occasionally heard a hemic murmur. During this time he has had a bronchitis.

One year ago he complained of severe earache. Dr. Holinger examined him and found a small vesicle at border of membrane. As soon as this disappeared the pain ceased.

During this time he occasionally had some unusual appearances in his case. Several times areas the size of silver 50-cent pieces would become red and itchy,



May 10, 1901.

and in a few days scaly. These would be over the lower dorsal vertebræ, exactly in the median line. Besides small vesicles, which would become hemorrhagic, appeared in mucous membrane of tongue and buccal surfaces. Patient would not notice them until he was made aware of their presence.

He can play baseball when hands are in fair condition without causing new blisters to arise. Whenever a new blister does appear he always claims it follows a blow or fall.

His mother states that he has always been peculiar in regard to his diet. He refuses to take almost all vegetables and fruit.

During this entire time I have given patient tonics of all kinds, especially for long periods some form of iron; now for some time cod-liver oil. The blebs, as a rule, have been treated by allowing them to remain closed, or, if very large, by opening and dressing with some inert antiseptic powder or salves according to the needs. The infected and hemorrhagic bullæ were treated antiseptically. The former often required moist dressing in order to give relief.

For four weeks I have had the patient in the Alexian Brothers' Hospital under close observation. During this time the hands and feet were wrapped in inert powder and absorbent cotton. Patient was not allowed out of bed and the hands could not be used; was dressed daily. With every precaution so that the affected parts were well protected and so they could not be used, the bullæ appeared with apparently the same regularity as if this care had not been taken. The acute swelling of the glands was treated with unguentum. Credé, and in no case did suppuration occur.

April 25, 1899: Blood examination showed hemoglobin, 74 per cent.; leucocyte count gave polymorphonuclear, 73 per cent.; large mononuclear, 6 per cent.; small mononuclear, 18.5 per cent.; eosinophile, 2.5 per cent.

May 15, 1901.

Nov. 10, 1899: A bleb, irregular in shape, about size of a 25-cent piece, completely full, surrounded by a red zone, located on palm of hand. Cleansed and surface made aseptic and sterilized needle attached to Luer syringe was used to aspirate. This turbid thick and grayish colored fluid was transplanted on the ordinary media. Typical growths of the staphylococcus pyogenes albus appeared.

March 6, 1901: Patient returned with a large hemorrhagic bleb at the base of the right thumb and palm of the hand, said to have followed a fall upon his hand. The bleb was opened under aseptic precautions and 9 c.c. of hemorrhagic fluid withdrawn. It was centrifugalized and slides made from the sediment stained with methylene blue and Ehrlich's triple-stain. Cultures were made from the freshly withdrawn fluid and also from the aseptically centrifugalized.

Just below the right patella was another large bulla which was treated in an exactly similar way. The contents were not hemorrhagic, but were perfectly clear.

Four cover-glass stained specimens from sediment of the hemorrhagic fluid showed numerous red blood corpuscles, a few

leucocytes, two of which were of the eosinophile variety. No growths on any of the media after 72 hours.

March 27, 1901: Since the preceding visit he has had numerous bullæ on the elbows, forearms and hands, and also on toes and about the ankles and knees. Some of those present are hemorrhagic and others filled with clear fluid. One bulla over the right knee was filled with a turbid fluid. This was aseptically treated and transplantations on ordinary media were made. The staphylococcus pyogenes albus was present in all tubes.

Blood taken from ear showed 71 per cent. of hemoglobin. The leucocyte count showed: Polymorphonuclear, 74 per cent.; large mononuclear, 7 per cent.; small mononuclear, 16 per cent.; eosinophiles, 3 per cent.

April 5, 1901: The condition of patient about the same. Bullæ have come and gone. The contents of several were again

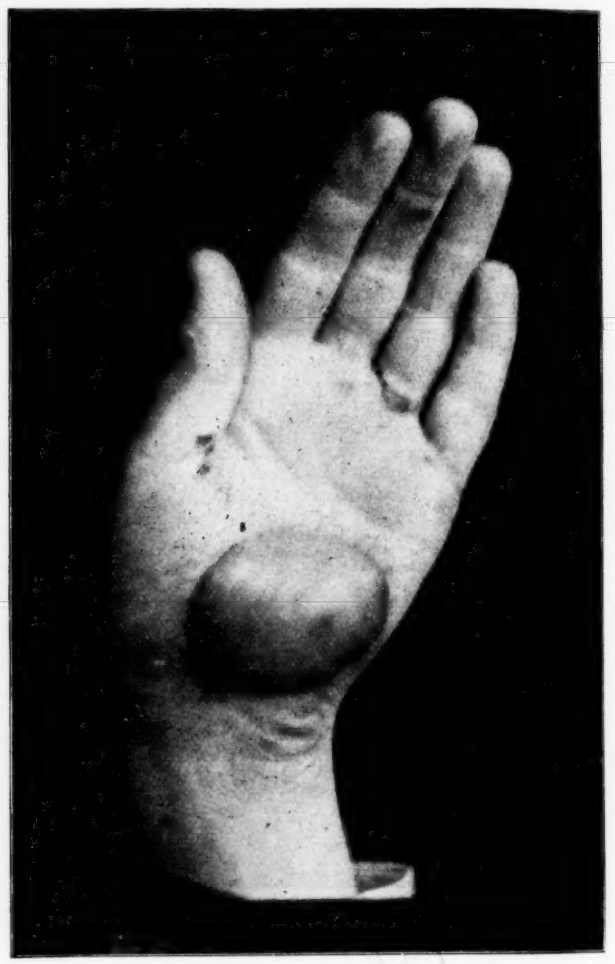
May 23, 1901.

examined microscopically. Numerous leucocytes were present and the large number showed no abnormal conditions, but they varied from this to an advanced stage of degeneration. Some were vacuolated and had fragmented nuclei. The red cells appeared smaller than those from the general circulation. Besides, transplantations were made, all without showing any growth.

Analysis showed the urine clear, acid, with sp. gr. 1021; no albumin; no sugar; trace of indican; Diazo-reaction negative; urea, 1.7 per cent.; microscopic examination was negative.

During the entire time that I have had the patient under observation I have made repeated examinations of blood and contents of the various kinds of blebs, and all with the same findings. I could see no change in the course, that is, no decrease or increase in the number of blebs during the different seasons of the year. All the functions of the body seemed to be normal. The skin appeared to act freely at all times, and at no time did he complain of excessive sweating of any particular part. Bulla filled with clear fluid, size of a split pea, located about left elbow, involving an area that had never been previously affected, was removed with ethyl chlorid, incising one-eighth of an inch from the efflorescence. Another, considerably larger, filled with hemorrhagic fluid from about the wrist removed under cocain infiltrations. Besides this other parts, including the epidermal cysts, were removed without any anesthesia. All these specimens were treated alike, hardened in weak, then absolute alcohol, mostly all prepared by the celloidin method, but some were mounted in paraffin. The ordinary staining methods were used and Zeiss microscope and lens used for their examination.

Repeated blood examination showed a variation of hemoglobin from 71 to 83 per cent., going up and down in percent-



May 23, 1901.

age strength. In the leucocyte count we also see variations: Polymorphonuclear, 73 to 75 per cent.; large mononuclear, 5 to 6.5 per cent.; small monuclear, 16 to 18.5 per cent.; eosinophile, 2 to 3 per cent. Continued bacteriological examination of the contents of the clear and also of the hemorrhagic bullæ showed absence of all bacteria. In those that were infected I have found the staphylococcus pyogenes albus.

Centrifugalizing the contents of hemorrhagic bullæ, all elements of the blood have been found. The larger number of leucocytes showed degenerative processes. Some were vacuolated and also had fragmented nuclei. The red cells appeared smaller than those of the general circulation.

Urinary examinations were negative to all pathological conditions.

For histological study excisions from healthy to frequently affected parts were examined.

HISTOPATHOLOGY.

In the strata spinosum and strata basale in all the specimens examined we find marked changes. Practically the adjacent cells of these layers show varying cellular destruction. Cells adjoining each other often show great contrast; one may be scarcely involved and the other may be the seat of greatest degeneration. This change involved the cell and its contents, yet no definite relation from below upward could be noticed, nevertheless we see that in the interpapillary changes we find the greatest destruction. In examining a bulla we can see how these affected cells, for the greater part, form the outer wall of the bulla, but few cells remain attached to the papillæ, and these, for the most part, show but little degenerative changes.

At a point where the layers of the bullæ again come together these changes were noticed. In some sections the process apparently stopped suddenly and in others the changes in the cells gradually changed to the normal condition.

The contents of the bullæ showed differences. In some, fibrinization had occurred—in those of several days' standing, also in those that were sanguinous. For the greater part the leucocytes that were present had undergone degenerative changes.

The greater number of blood-vessels showed dilatation, and in addition an infiltration about the same. The character of the latter were such that they were most markedly present in the older lesions and scarcely, or not at all to be noticed in lesions that were excised from areas that had never been previously affected.

In all we find a more or less serous transudate about the immediately affected parts. Whenever this fluid reaches these weakened areas of epithelial cells we get a separation of the same, and is the beginning of a bulla. It would seem as if this disease is non-inflammatory, only becoming so when it has reached the chronic state.

What the primary cause for the degenerative changes in the basal layer and the consecutive flow of serum is we can not explain. It must be some peculiar condition of the skin inherent in these unfortunate individuals.

Status Praesens.—Patient is of average size, although muscular development apparently below average. His general health appears to be good. Skin is somewhat flabby and general color seems to be slightly pale. He exercises the same as his playmates, but he is easily hurt, i. e., blebs arise and give cause for pain, especially if they become infected. In his school work he is as far advanced as those of his age. His skin is active, perspires freely, and apparently not unusually from any special area.

Irregularly distributed over the surface of tongue, more towards the median line and extending posteriorly to the circumvallate papillæ, from pinhead to one-half hemp-seed sized vesicles, some filled with a clear and others with hemorrhagic fluid. A few of them are so situated that the teeth could not have caused any traumatism. On the buccal mucous membrane on a level where the teeth touch, and opposite decayed teeth, are elongated vesicles filled with hemorrhagic fluid. About these parts a light leukoplakia exists, showing that possibly similar eruptions have preceded it.

On the lower lip, just to the right of the median line, the signs of an old 5-cent piece sized bulla partly extending over the skin.

On the tips of both ears irregular in outline, the border raised and represented by an epithelial layer passing into the normal *niveau.* Within this outline the skin is of a slightly redder hue. Within can be seen some parts that have apparently not been affected. These parts as well as all the others are normal to the different sensations.

Exactly over the tenth dorsal spinous process a perfectly round flushed area, silver-dollar in size. It has given him a slight sensation of warmth and itchiness. Over the upper lumbar vertebræ and in the median line an area somewhat smaller in size, color not quite so bright and the surface covered with very minute scales. This has been present some ten days. These have never reached the stage of bullæ, nor have any bullæ ever been noticed on the back.

Thumb-nail of right hand is about to become detached. It is raised, especially at base, and here, too, are transverse striations. The whole is very opaque and slightly movable. On raising a very distorted nail, with rough surface and with no free edge, is to be made out. On the flexor surface over the second phalanx a 10-cent piece sized bulla filled with clear fluid. About the nail and extending over the greater part of the dorsal surface of thumb, is scaly and of a dark-red color.

Now, over the metacarpal-phalangeal joints a few small vesicles. Interspersed we find pinhead sized white-capped elevations or epidermal cysts, arranged apparently usually in circles, which probably correspond to the outline of some previous existing bullæ.

The entire palm of hand covered with bullous eruptions, several bulla having come together. Contents is dark-purplish in color. About the wrist and extending partly up the extensor surface of forearm a similar appearance to that over the dorsal surface of the hand. Over the extensor surface of the elbow is a bulla one and one-half inches in diameter, comparatively well filled, slightly flabby with clear, semi-fluid liquid.

The nails of the thumb, middle and small finger are similarly affected as on the right side, except that a whitlow exists about the index finger-nail, it having followed a bulla. The palm of hand and dorsum as well as wrists and elbow showed a few bullæ, epidermal cysts and also red and scaly patches.

Nails of toes of right foot are all irregular, small, surface rough and apparently poorly nourished. Over dorsal surfaces of all the toes a reddish scaly condition and a few small vesicles present; similarly on the toes of left side. Never any bullæ on soles of feet, only occasionally on the dorsal surfaces, consequently only normal skin. About the malleoli and over the lower part of the tendo Achilles we find a few blebs and remains of old ones. No signs over tibiæ of any previous affections, but at present over both knee caps, palm-sized, flabby bullæ. About these scaly and discolored skin.

The hands show no signs of any cyanosis or edema. The shape appears to be normal, except when bullæ are present. The palms and dorsal creases are present when not temporarily affected by bullæ. Especially on the extensor surfaces of the extremities where bullous eruptions have frequently existed we find the skin glossy, tense, and the normal striæ of the skin lost or all the appearances of atrophy present. In these areas we find these epidermic cysts. These apparently go and come without leaving any permanent macroscopic changes.

I have attempted with heat, chemicals, and mechanical means to cause bullæ, but without avail. A slight redness would appear, but only of passing moment.

Of late there seems to be a tendency among some authorities, among whom we find Hallopeau, to bring all these cases under one class, yet to recognize different varieties. All varieties have some things in common. We find, 1, that shortly after birth or usually at latest in early youth, there is a tendency for traumatic bullous eruptions; 2, that similar areas are affected; 3, that it is hereditary; 4, that the general health is intact; 5, that the course is chronic and remains uninfluenced by therapy.

Now, the dystrophic form of Hallopeau includes the case which I report. Because, in addition, it has consecutive atrophy of the skin, epidermal cysts and distortion of the nails. Those cases that belong to the simple variety can not have any one of these changes present.

That these types exist we must admit. Certainly the clinical appearances are very marked. Without doubt

these differences are so great that we must admit of the possibility of varieties. But it is asked: Why make such classifications? Have we not various diseases in which one or more clinical symptoms are absent and yet call one and all the same? No two cases of different types in the same family have yet been reported. This would almost certainly be a connecting link between the two and to some extent clear the question.

I think that we are still in doubt, and that for the present it will be best not to classify all under one and the same disease.

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DISCUSSION.

DR. F. H. MONTGOMERY, Chicago—I am only sorry Dr. Schmidt can not show the case here. Those of us who have been fortunate enough to see this case have no doubt regarding the correctness of Dr. Schmidt's diagnosis.

DR. M. L. HEIDINGSFELD, Cincinnati—The feature which has impressed me most strongly in Dr. Schmidt's interesting paper, is the low percentage of eosinophilia, less than 2 per cent., if I remember rightly. This corresponds to the recent investigations of Bettmann of Heidelberg, who has found an exceedingly low percentage of eosinophilia in epidermolysis bullosa, which is in direct contrast with nearly all other forms of bullous eruption, and what is most interesting, is also in direct contrast with the investigations of nearly all other writers on epidermolysis bullosa, notably with Columbini, who claims an eosinophilia of 14 per cent.

The nature of the bullæ in this disease is also a matter of peculiar interest. It has been noted that sinapisms, in the form of mustard plasters, Spanish-fly, etc., when applied over the predisposed pathological areas, are unattended by vesication or even redness, while on the other hand, these symptoms are promptly induced over normal tissues elsewhere, which from the very nature of the disease, is the converse of the anticipated. Subcutaneous injection of normal salt solution, over the pathological areas, has been followed by the formation of bullæ which have the same appearance and pursue the same course, as those of spontaneous nature. From this, the deduction has been drawn, that the essential factor underlying this peculiar condition, is an undue relaxation of the areolar connective tissue, which readily permits and favorably prolongs an exudation.

DR. LOUIS E. SCHMIDT, in reply—This case has been different from the cases reported in the literature. I know in regard to some of the findings, especially as far as being able to raise bullæ by artificial means and in blood examinations, they differ very markedly from some of the authorities. The microscopic findings are practically the same as those of Elliot.

New York State Insane.—Inequalities in county statistics of the insane are pointed out by the lay press without assigning any causes for the discrepancies. Thus Ontario county, with 49,000 inhabitants, has 185 insane, while Clinton, with 47,000, has but 88. Rensselaer, with 121,000, has 527 insane, while Oneida, with 133,000, has but 438. Ulster, with 88,000, has 265 insane, while Duchess, with 81,000, has but 360, and St. Lawrence, with 89,000, has 269. Orange county, with 103,000, has 357 insane, while Westchester, with practically the same population as Orange, has 500 insane.

PROTRACTED INFLUENZAL PNEUMONIA IN INFANCY.*

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While no period of life is exempt from influenza, it has been observed, during the pandemics of grip that have encircled the world, that infants are in a high degree immune from this scourge. During the recent epidemic of December and January, 1900 and 1901, I had under my observation, at the one time and in the same institution, four infants suffering from protracted pneumonia of influenzal origin, which, I trust, are of sufficient interest to present their histories and exhibit some pathologic specimens.

It is not my wish to convey the impression that grip in infants usually runs such a protracted course as the cases I present. During this period of life, grip is as protean in all its characteristics as in other life epochs. None the less the simultaneous occurrence of four cases in an institution that shelters sixty to seventy-five babies argues for the great frequency of severe and protracted forms, if infants be afflicted with influenza.

Etiology.—These four infants were fed exclusively on artificial food at the time they contracted the grip, and two of them had been nourished in this manner since birth. This is in accord with the observation that nursing children are almost absolutely immune, even though their mothers be seriously stricken with the grip. This immunity is explained by assuming that a potent antitoxin is eliminated in the maternal milk. Infants artificially fed are more susceptible than babies at their mother's breast, but are less susceptible than adults. Comby estimated that the morbidity among children in Paris during the pandemic of 1889 and 1890, was 40 per cent., and among adults was 60 per cent. We may state that the influenzal sick-rate, which is nil in young infants, progresses and regularly increases up to adult life. The youngest child that Comby reports with the grip was 17 days old, and he saw three nurslings contract the grip while nursing their sick mothers. This latter observation is quite exceptional. Relapses among children are not rare, but second attacks, during the same epidemic, are exceptional. The contagiousness of influenza is very great, and, particularly in institutions caring for a number of children, the afflicted infants should be isolated.

Symptomatology.—The onset, in these cases of protracted grip-pneumonia, was rather precipitate, and presented the clinic picture of a more or less severe gastro-intestinal infection, to which, in a few days, symptoms of involvement of the respiratory tract were added. Convulsions were not present, neither were there any pronounced nervous symptoms, such as stupor, chill, etc., though some irritability or restlessness was early present.

Usually the first symptoms observed would be that the child refused its food, or, if it had taken some, would vomit. It would be cross and fretful, would have a high fever, the breathing would become fast, then hurried and jerky. Cough, at first short and occupying a single expiration, would increase in intensity until it might be paroxysmal and continuous as in pertussis. The bowels were usually constipated and a considerable

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee of the Section: H. E. Tuley, Edwin Rosenthal and Samuel W. Kelley.

accumulation of gas in the stomach and intestines was frequent. The tongue usually was red and dry or coated with a moist whitish fur, and the pharynx mildly injected.

The temperature was elevated to a high degree, even early in the disease, and was distinctly irregular and intermittent, pursuing no definite cycle. One of the curves in particular resembles that of a pus infection. This irregularity and intermittency is intensely characteristic of influenzal infection and is in marked contrast to the pulmonary infection with the pneumococcus. The remissions of temperature may resemble the irregular and inverse type, as observed in tuberculosis, or may exhibit such a periodicity as is observed in malaria, and these resemblances are still further approximated by the frequent concomitants of drenching perspiration. The daily difference between maximum and minimum temperature, as exhibited in these charts, is very great, and differs very much from that observed in the vulgar gastro-intestinal infections. It appears to me that these characteristics of the temperature curve, sudden onset, great height, irregularity, and great daily difference are rarely exhibited in other infections in infancy. Hyperpyrexia was several times observed, but was well borne by these infants.

The earliest symptom of respiratory involvement was an acceleration of breathing. The breathing was continuously short, shallow and fast approximating 30 to 40 respirations a minute, with paroxysms when the rapidity would excel 60 to 80 a minute. These paroxysms would continue from a few minutes to an hour, and would be accompanied by a severe degree of cyanosis. More or less coryza was present in all of the cases, while in two cases the nares became intensely inflamed; in these two there was an extension of the inflammation to the middle ear, with rupture of the drum membrane and discharge of muco-pus from the external ear.

Cough was present, but not early. It was sometimes paroxysmal and explosive, suggesting the cough of pertussis. As is the rule in infancy, there was little sputum raised with it and we were content to examine what could be obtained, during a paroxysm of coughing, by placing the infant's face downward and gently slapping it on the back, or removing the mucus from the mouth with the finger. In one case we obtained some sputum by means of the stomach tube that was introduced because of an accompanying gastric disorder. At no time was the sputum rusty or even blood-tinged, but usually consisted of a thick, tenacious, glairy, transparent mucus. The sputum was obtained from all four cases and was examined particularly for the influenza and tubercle bacillus. Smears were made on glass slides and the stains usually employed for tuberculosis were used, but in none of the cases were tubercle bacilli found. For influenza, a weak carbol-fuchsin, or hot, methyl-blue solutions were used and cultures were made on hemoglobin blood serum. Influenza bacilli were present in all cases, a few times, in what seemed to be pure cultures, but usually associated with other bacteria.

The pneumonia was clinically lobar. A large part of one lung was consolidated without intervening aërated portions in the same patch and the remainder of the lung showed evidences of only a diffuse bronchitis. The consolidation was very slow in its development, not being observed until several days, a week or even longer, after the initial symptoms; and when the consolidation was pronounced it gave the characteristic physical signs observed in adults, viz., dulness, bronchial breathing, and bronchophony. Distinct crepitant râles were wanting over the consolidated area, but crepitating, cracking, and mucous râles were very abundant. Small and large mucous râles were diffused over both lungs. Consolidation persisted during the entire course of the pneumonia, and, in the cases that recovered, slowly cleared up, and, within a few weeks after the temperature became normal, the lungs were clear.

The pulse was fast, rather weak, but not distinctive, and corresponded to the intensity of the infection, as measured by the pyrexia, lung-involvement, etc. The pulse-rate varied from 140 to 180. The examination of the heart did not reveal any symptoms of peri-, myo- or endocarditis, but complications on the part of the heart are very frequent during the course of the grip in infants; more particularly are found weakness, dilatation and failure of the right heart. Fluid or fibrinous exudate in the pericardium has been observed in older children and postmortem changes in the myocardium of a degenerate nature are not rare.

The nervous system was signally exempt from any complication in these cases, if we except the early restlessness and irritability, and in one case the slight rigidity of the lower limbs, though many observers have noted convulsions and paralysis from involvement of the central nervous system, and meningitis from influenza is not unknown. Hemorrhage and abscess in the brain, disseminated myelitis, hemorrhagic pachymeningitis and peripheral neuritis have been encountered during the grip.

The urine presented the usual febrile characteristics. It was strongly acid in reaction, of a high specific gravity and contained abundant urates. In only one case was albumin present, and this was two weeks before the fatal termination, when a nephritis developed which became very intense and was in a great measure responsible for the unfavorable termination.

The abdomen was usually distended with gas, at times even considerably, but offered no other abnormal conditions. There was neither rigidity nor tenderness, and the liver and spleen were not palpable. Herpes was observed in one case, but no other skin eruption was noted in these cases. Mention should be made of the profuse perspiration which was present in all of the cases and which is said to be dependent upon an angio-neurosis—a vasomotor paralysis—due to the grip-toxin.

The literature records, as occurring in grip in children an exanthema simulating closely either the diffuse punctate erythema of scarlatina, or mayhap the mottled reddish eruption of measles. Sudamina, urticaria, erythema, nodosum, erysipelas, pemphigus and hemorrhages into the skin have been observed, although, as was stated, these eruptions were not present in the cases under consideration. Otitis media appeared in two cases, which is in accord with the known frequency of this disorder complicating inflammations of the upper respiratory tract, particularly during early life. Slight hyperemia alone was observed as regards the ocular complications, though severer disturbances have many times been recorded.

Pathology.—Concerning the pathology of protracted influenzal pneumonia, because of the necessary limits of this paper, only some of the important data will be considered. The anatomical form of protracted grip pneumonia is essentially catarrhal. The pneumonia may occur acutely, suddenly involving a great extent of

lung, just as in croupous pneumonia, but in my cases the pulmonary consolidation was slower in its involvement of the lung, but resembled the croupous pneumonia in its lobar distribution. The pneumonias were characteristically desquamative or catarrhal and were accompanied by diffuse inflammation of the fine and larger bronchi. The entire respiratory tract was congested. This was particularly true in the small bronchi, and the mucous membranes were covered with a tenacious mucus. In some of the smaller tubes the entire lumen was choked with muco-pus.

Within the lobules, the alveoli were filled with a cellular exudate made up of pus, desquamated epithelium and a granular debris. Fibrin was conspicuously absent. The alveolar walls were densely infiltrated with round cells, the blood-vessels in the bronchi and interalveolar tissue were engorged, and in one of the specimens they were filled with firm thrombi. This vascular thrombosis, in one of the specimens, had occasioned a small area of necrosis with softening, and, from a more extensive thrombosis, a larger area of pulmonary gangrene or abscess might result. The pleural surfaces were smooth and presented no signs of inflammation, though purulent pleurisies are frequently encountered secondary to grip pneumonias.

Pericarditis has been observed and, as a rule, there is a catarrhal inflammation of the mucous membranes of the stomach and bowels. In some cases the lymphoid nodules in the small intestine are swollen, and may even be necrotic and ulcerate. Peritonitis is a rare metastatic complication. The liver may be the seat of abscess formation, though usually the only pathologic alteration in the liver is an albuminous degeneration. The kidneys, in one of the fatal cases, were the seat of an advanced diffuse nephritis with microscopic foci of suppuration. Usually a cloudy degeneration of the tubular epithelium and a slight exudate in the glomeruli, with hyperemia of the tufts, represent the extent of the renal lesions in grip, rather than the severer lesions of necrosis or suppuration. Metastatic processes of a suppurative nature, in the glands, bones or joints, are occasional complications of grip pneumonia, and in the same category might be included thrombo-phlebitis, with phlegmasia alba dolens.

The duration of influenzal pneumonia varies within wide limits. One extreme may be represented by this series of cases, other cases being almost evanescent or diurnal in their duration. The greater number of cases of grip pneumonia probably continue over a space of time that would represent the mean of these extremes. Two of the four cases perfectly recovered, one after twenty-five, the second after forty-one days; two died, one with the lungs in a condition of purulent pneumonia, localized pulmonary abscess and metastatic nephritis; the other, as the immediate result of a complicating infectious disease, with the lung in a state of splenization.

Pulmonary abscess and gangrene are particularly to be feared in these pneumonias, and the probability of their occurrence is enhanced because of the extensive thrombosis of the pulmonary blood-vessels. Complications with abscess or gangrene are almost always fatal. Even after months of protracted pneumonia, a complete restoration to normal pulmonary tissue may occur; or, connective tissue destruction of large areas of lung may result, with perhaps the formation of bronchiectatic cavities that invite secondary infection with pus microbes, leading to suppurative necrosis or ulcerative processes. Tuberculosis is a very common sequel to protracted influenzal pneumonia.

Diagnosis.—In the presence of an influenzal epidemic, with evident grip infection in other members of the household, the probability that a serious illness in an infant was influenza would suggest itself. The following diagnostic features of grip pneumonia would be included: the sudden onset of a sickness, with mild intestinal symptoms and evidences of inflammation of the upper respiratory tract; sharp elevation of temperature and highly irregular course of fever, with the physical signs of a lobar pneumonia, and the demonstration of Pfeiffer's bacillus would render the diagnosis positive.

The differential diagnosis would include particularly gastro-intestinal infections (dietetic or specific, such as typhoid), pneumococcus pneumonia or ordinary broncho-pneumonia, malaria, sepsis and miliary or diffused tuberculosis. In typhoid the onset is more gradual, the temperature-curve more regular and the respiratory symptoms are not so pronounced. The Widal blood test and the Ehrlich urine reaction, the roseola and splenic tumor are wanting in influenza, and the infrequent occurrence of typhoid in infants would weigh against the diagnosis of typhoid.

Gastro-intestinal infections might present considerable difficulty for a few days, but the greater severity of the pulmonary symptoms, the irregular temperature and the negative result of dietetic treatment, would weigh against it. Grip pneumonia may offer many of the symptoms that occur in malaria. Irregular course of the temperature, that may even be periodic, and the profuse sweats might be accepted as malaria, if a thorough examination were neglected. From malaria the diagnosis would be turned, by the absence of plasmodia in the blood, the absence of splenic tumor and the failure of relief through quinin.

So many of the signs and symptoms of influenza are common to tuberculosis that the greatest difficulty may arise in a differential diagnosis of these conditions. The pulmonary signs, which are of slow evolution and persist longer than lobar pneumonia, with the irregular temperature, the fast pulse, the accelerated respirations with cyanosis, and the profuse sweating, may constitute a clinical picture of tuberculosis. Tuberculosis is difficult to differentiate in these cases and it is only after repeatedly failing to detect the tubercle bacillus and the finding of the Pfeiffer organism that one feels content in excluding tuberculosis. The tuberculin test is rarely employed. In miliary tuberculosis, it is true that tubercle bacilli are rarely found in the sputa, but here the finding of the influenza bacillus, may be in pure cultures, would weigh against tuberculosis. The history of an inherited tubercular tendency or possible contact with phthisical individuals would favor a leaning toward tuberculosis, and the absence of such a history would have a negative value.

Prognosis.—In venturing a prognosis we must be extremely guarded. Severe cases might entirely recover under favorable circumstances, but the possibility of imperfect recovery, with lasting pulmonary disease, should be kept in mind. Death, during the height of the disease, may occur from the severity of the intoxication, with extensive pulmonary disease and failure of the right heart. It may occur from influenzal complications in other organs, i. e., kidney, brain, etc., or the lessened resistance consequent upon the grip may permit usually mild infections, such as varicella, to

kill, and too, the frequent occurrence of tuberculosis as a sequel to grip must be ever kept in mind.

Treatment.—There is no specific remedy for influenza, and these cases must be treated individually on general principles. Grip cases should be isolated, so far as possible, and this particularly in hospitals and infant asylums. We should select for the little patients a large well-ventilated room, free from noise, and one that is kept moderately warm—80 to 85 degrees F. This is much warmer than advised in ordinary pneumonia. Infants do better if carried about a few hours each day than if permitted to lie all of the time in bed.

Diet is most important and should be nutritious and conform to the digestive capabilities of the infant. Certified milk, meat juice, cereal decoctions, fruit juices and plain water, when properly administered, are usually sufficient. A tepid bath should be given every day. The mouth and nostrils should be given the greatest care, using a gentle alkaline and antiseptic wash several times a day. It is customary and advantageous to relieve the gastro-intestinal tract by a laxative or enema at the onset of the illness. We should avoid the nasty, sweet stuffs commonly given as cough mixtures, for these cause a degree of gastric distress greater than any sedative effect they may have.

Belladonna and nux vomica, given in physiologic doses, probably act better than do other medicines in the average case of infantile pneumonia. They act as general and especially as respiratory stimulants, promote deeper breathing and free the bronchial tubes of considerable mucus; what is of especial value, they keep up the heart strength, which, in infants, is likely to fail, because of the added mechanical work to a heart receiving impoverished and toxic blood. Heart failure, of the right heart particularly, should be guarded against from the beginning, rather than to await the onset of cardiac failure. In the event of impending cardiac failure, in addition to strychnia, we may employ camphor, nitroglycerin, ammonia or its salts, whisky, and the careful administration of digitalis.

The peripheral circulation can be favored by stimulating baths, such as hot mustard baths. Inhalations of hot moist air, plain or medicated, as administered under a tent, may relieve the symptoms of suffocation that supervene so often in infant pneumonias. An infant may be placed in the tent for fifteen to thirty minutes several times a day. Cold applications to the skin frequently act in a very happy manner in cases of threatened suffocation. Dipping the child into a cold and then into a warm bath, followed by brisk friction, acts as a great respiratory and cardiac stimulant.

A cotton jacket around the chest is often grateful to the patient, and I have thought that a calomel plaster —5 per cent. calomel in lanolin—placed over the consolidated lung, favorably influenced the pathologic condition. The temperature should be combated, if the necessity be present, by water, rather than by antipyretic medicines. In some cases these remedies may act in a pleasing fashion, but it is safer to have recourse to hydrotherapy, cold sponging, spraying, baths, friction, or enemata of cold water, not only to reduce the temperature, but to act as general tonics. In protracted cases the bitter tonics and tonic wines, iron, arsenic and cod-liver oil, find their place, and if convalescence be prolonged, a change of residence to a dry, warm, equable climate might be of inestimable benefit.

CASE 1.—Anthony F., aged 1 year; weight, 21 pounds 9 ounces.

Dec. 20, 1900: Admitted to asylum; history of having been sick one week. Had poor appetite, with greenish mucous stools three times daily; severe cough and irregular temperature. Examination: Skin pale, sallow and hot; mouth, normal appearance, six incisor teeth; the lymph glands are enlarged universally to a slight degree; over the back of the right lung below the scapula there is an area about two inches in diameter, where signs of pulmonary consolidation were found; left lung presented negative findings, heart normal, abdomen somewhat distended.

December 24: Child has been fretful; poor appetite, stools contained some mucus, severe coughing spells with thick tenacious sputum. Over the right lung, posteriorly from the middle of the scapula to the base of the lung, and extending from the spine into the axilla, resonance is dull, with many râles on auscultation; in the center of this area, bronchial breathing and bronchophony are present. The sputum, examined for tubercle bacilli, was negative, but showed the influenza organism in great numbers. Other bacteria being sparsely met with.

December 29: Pale and much emaciated. The bowel movements have been frequently offensive, with undigested particles. Urine, specific gravity 1010, contained neither albumin nor

Fig. 1.—Purulent influenzal pneumonia with foci of softening.

casts. Cough not so severe. Physical examination of the lungs, same as December 24.

Jan. 17, 1901: The appetite has been variable; no vomiting; bowel movements at times contain mucus and undigested masses. Cough, sometimes very severe with little expectoration. Respirations, 50 to 60 a minute, regular and free. Has lost considerable strength and flesh. Physical examination of chest revealed the same physical signs with each examination, that is, evidences of the consolidation of the right lower lobe, a few mucous râles heard here and there over other parts of the chest.

January 31: General condition somewhat improved. Cough not so severe nor frequent; resonance over right lung has cleared up materially since January 21. Respiration is subdued on the right side, with very few râles.

February 15: Varicella. Resonance over the right lung posteriorly is slightly impaired, no râles, respiratory tones are normal.

March 1: General nutrition very much improved, digestion almost normal, no evidence of pulmonary disease, temperature normal, general condition satisfactory.

CASE 2.—Annie Sweeney. Aged 1 year, only child of healthy parents, moderately well nourished, reared on mixed feeding, weight 18 pounds.

Jan. 6, 1901. She was observed to be ill, fretful, and crying, refused the breast and bottle altogether, or took but little. Sleep was restless and disturbed; temperature elevated; breathing rapid and interrupted by short cough. Bowels moved four times daily, were dark green with much mucus and offensive odor. Examination: The mouth, tongue and throat were red and dry; there were some small moist râles over the back part of both lungs; abdomen somewhat distended.

January 10: General condition about as above, and on examining the chest, the râles were more numerous and abundant over the back part of both lungs.

January 12: Appetite has not been keen, bowel movements are rather free, but of normal appearance; at times there was considerable distention of abdomen and retching, was relieved by lavage. The attacks of coughing not very severe, but persistent. On examining the chest there was an area over the posterior surface of the left lung, extending from the spine of the scapula to the eleventh rib and from the spine to the posterior axillary region, where there was dulness, bronchial breathing and crepitant râles. Small mucous râles occasionally were heard over the remainder of both lungs. Heart was negative; Traube's space of normal size.

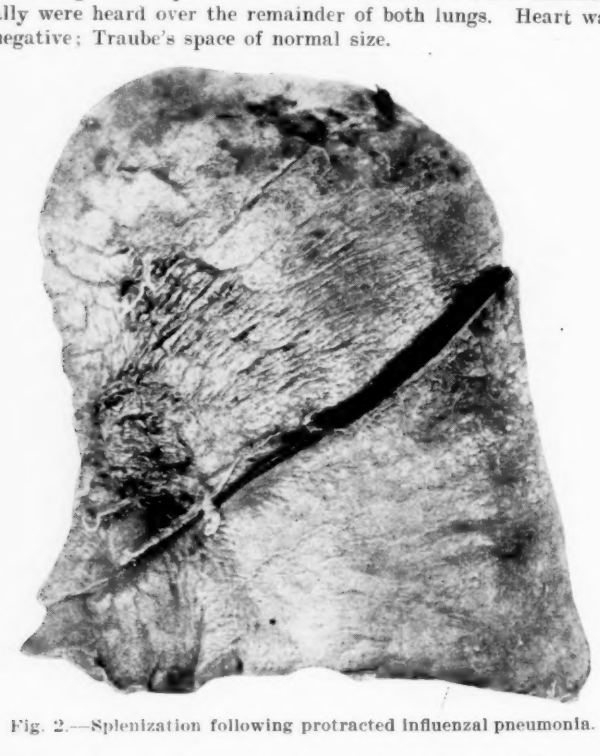

Fig. 2.—Splenization following protracted influenzal pneumonia.

January 22: The symptoms have persisted in much the same manner. The resonance over the entire left lung is impaired and posteriorly, below the spine of the scapula to the base of the lung, the note is almost flat; on auscultation there was bronchial breathing with crepitant râles. Although there was no dislocation of the heart, and Traube's space extended from the sixth to the costal arch, yet because of the irregular temperature and protracted course, a thoracentesis was done but with negative result.

January 25: Same physical signs as January 2, except that the periphery of the area seemed to be clearer.

January 29: Resonance over the left lung is almost normal. Respiratory movements free, and normal in quality, though more frequent than normal. On the left side the respiratory murmur is shallower than on the right and on deep inspiration is accompanied by a few râles. General condition much improved.

January 31: General condition satisfactory, no abnormal thoracic nor abdominal signs.

CASE 3.—Mary T., aged 13 months, was fed on human and cow's milk until she was 8 months old. Since then has been nourished on modified cow's milk alone. During her infancy she had several attacks of acute gastro-enteritis, and when six months old she had the measles with broncho-pneumonia.

Jan. 7, 1901: For the past few days she has been out of sorts, with little appetite for food and a considerable elevation of temperature. She had a slight cough and several times, during the day, she had periods of very rapid and shallow respiration, with considerable cyanosis of the face and extremities. Examination showed the child to be fairly well nourished, the skin dry and hot, with no exanthem on the body. The tongue was red and dry, slightly coated; the gums not inflamed, had 8 incisor teeth. Pharynx was moderately injected. Respirations were accelerated, but free; no signs of consolidation of the lungs elicited, but numerous small, moist râles were heard over front and back of both lungs. Heart was rapid, otherwise was negative. Abdomen was slightly distended, no tenderness nor rigidity; liver and spleen were not palpable.

January 12: Respirations frequent and catchy, often interrupted by a short cough; very restless at night. Lower limbs rigid; appetite poor. Over the right side of the chest, from the clavicle to the third rib, were dulness, distant bronchial breathing, bronchophony and crepitant râles. Coarse mucous râles over the rest of lungs.

January 14: Mucous membrane of nose congested with slight muco-purulent discharge. Ears negative; physical signs over the chest same as January 12.

January 18: Symptoms and physical signs remain as above noted. There was also a purulent discharge from both ears. Urine was high-colored, and contained traces of albumin and a few granular casts. Herpes on angle of mouth and alæ nasi.

January 22: Upper lip swollen and excoriated from purulent discharge of nostrils. Urine became gradually less in amount, contained large amount of albumin, and numerous coarse granular casts. From the apex of the right lung anteriorly, to the fourth intercostal space, the signs of pulmonary consolidation persisted, with evidences of a profuse bronchitis. The sputum and nasal secretions were repeatedly examined for tubercle and influenza bacilli with positive results as to the latter. Vomiting, with great restlessness and twitchings and gradual failure of strength, preceded the fatal termination.

Postmortem: The right upper lobe was entirely consolidated and of a uniform, yellowish-gray color. About the middle of the lobe was a focus of softening about the size of a hazelnut, projecting like a blister beyond the level of the lung and containing about a half dram of thick pus. Below this small abscess is an area of caseous necrosis, a half inch in diameter. The color of the cut section of lung was grayish-yellow, almost homogeneous, slightly granular, dry and airless. Irregular areas of emphysema and atelectasis were scattered throughout the remainder of both lungs. Mucous membrane of bronchi was congested, and from the bronchioles could be expressed fine droplets of muco-pus. Scattered through both lungs, particularly at the base, were some small peribronchial nodules of consolidated tissue of a deep-reddish color. Smear and cultures from the cut surface showed the influenza bacillus with the pneumococcus and streptococcus. Liver and spleen were practically normal. Kidneys were much enlarged; the left 2¼ by 1¾ by 1 inch; the right 2½ by 1¾ by 1. They were quite soft. Pale-yellowish color, the cut surface oily and yellowish-white casts. Relation of the cortex to the medulla is about the same. No cortical markings, medulla is pale with irregular areas of congestion. Microscopic examination of the kidneys showed the glomerular tufts swollen, nuclei more numerous and in some capillary tufts were separated from capsule by a finely granular material. The epithelium, lining the convoluted tubules, was swollen, coarsely granular and the nuclei in many cells not staining with hematoxylin. Some desquamation of renal epithelium. Sprinkled to the cortex are many small areas where the intertubular connective tissue is thickly beset with a mass of round cells forming a minute, yet veritable abscess. Stain for bacteria negative. Section through the consolidated area of lung showed alveoli filled with a cellular mass made up in great part of round cells, with a few fatty epithelial cells and granular debris. There was no fibrin and only rarely any red blood cells in the alveoli. The alveolar connective tissue was densely infiltrated with round cells. In some fields, the alveolar septa cannot be differentiated from the alveolar contents, the whole field consisting of a mass of round cells with

some larger epithelial cells, resembling a purulent focus. Some of the pulmonary blood vessels are filled with an organized clot that has become adherent to the vessel wall. The smaller bronchi are filled with masses similar to those in the alveoli (Fig. 1).

CASE 4.—Mathew, aged 10 months, weighs 18 pounds; family history unknown; brought up on sterilized milk. Evidences of congenital syphilis were observed when two months of age; papulo-erythematous rash over chest, abdomen and plantar aspect of feet; when six months old had a gumma an inch in diameter on the scalp, over the center of the left parietal bone, and a smaller gumma on the right tibia, both of which quickly resolved under specific treatment. At 8 months had a severe attack of bronchitis lasting two and a half weeks. Good recovery.

Jan. 14, 1901: Refused the greater part of his food and vomited; bowel movements, sour odor and contained considerable mucus, with particles of undigested and greenish material. Severe distention of abdomen. Examination: Moderate nourishment; skin burning hot, dry, no exanthema; tongue slightly coated, two lower incisors; pharynx injected; no pulmonary signs or symptoms, save that the respirations were 40; abdomen distended and tympanitic. Put on appropriate treatment and noted apparently gradual improvement until January 21, when temperature became high, respirations more rapid, and irregular with a soft, small and frequent pulse. Examination: Left lung posteriorly from the left scapula to the base and extending from the spine to the mid-axilla, dulness; bronchial breathing; bronchophony, and consonating râles. Over remainder of chest, lungs are hyper-resonant with many medium-sized râles. Heart rapid, area a trifle reduced—pulmonary distention—abdomen greatly distended; spleen or liver not palpable.

January 25: During the past ten days, child has had little appetite, been very apathetic, content to lie quiet most of the day, but often disturbed by periods of rapid, superficial breathing, attended by great cyanosis. These spells occur at irregular periods from two to five times in twenty-four hours, perhaps more often during the night. Sometimes lasting for an hour and seemed to be relieved by alternating hot and cold baths. Sometimes the child would become very restless, with the abdomen extremely tympanitic, and after the passage of some gases by mouth or rectum, occurring spontaneously or assisted by rectal or gastric tube, would grow quiet again. There has been more or less cough every day; it was dry, short and in paroxysms like a mild pertussis. Sputum was twice obtained; was of a thick, cream-yellow color, and smear and culture showed presence of Pfeiffer's bacillus. Physical examination same as January 22. Slight muco-purulent discharge from both ears.

January 29: Respirations, short and catchy, resonance over the left lung posteriorly is from semi-tympanitic to nearly normal, but over this area can be heard distinctly bronchial breathing and crepitant râles, with fine mucous râles over both lungs.

January 31: Resonance over left lung posteriorly clearer, but breathing has yet a bronchial character. A few crepitant râles over the base.

February 5: Resonance over the area of left lung described, is semi-tympanitic with crepitant and crackling râles, and broncho-vesicular breathing. Ears are getting better, discharge almost ceased and appearance of the drumheads normal. Abdomen distended. General micropolyadenopathy. Child has lost since sick, over three pounds, but for the past few days seems to be becoming stronger and brighter, with keener appetite, though respirations remained hurried and pulse small and frequent.

February 14: Condition of lung much improved, but crepitant and consonating râles remain over left lung posteriorly.

February 18: Yesterday developed varicella. During the past few days has failed very much, has become much emaciated and exhausted.

February 20: Very thin, extremely weak, pulse fast and feeble, respirations frequent, cyanosis and death.

Postmortem.—Body emaciated, the evidences of varicella remain on skin. The lungs show marginal emphysema with irregular areas of congestion. The left lower lobe is of a dark purplish-red color uniformly solid, consistency of the spleen. Section dark-red, granular, with muco-pus exuding from the small bronchi. The tracheal and bronchial mucous membranes congested. Smear from lung shows influenza organisms predominating. The heart, lungs and kidney were normal and spleen slightly enlarged. The stomach greatly distended and contains 16 fluid ounces. The wall is pale and atrophic. The glands in the mesentery are swollen, many to the size of a filbert and are of a deep-red color (Fig. 2).

DISCUSSION.

DR. I. A. ABT, Chicago—I think we are deeply indebted to the author for this very excellent résumé on protracted and grip pneumonias. It has been my misfortune to have seen quite a number of cases of protracted pneumonia. In my opinion, not all protracted pneumonias are of the grip variety. We know very well that pneumonias, whether broncho or lobar pneumonias, may be due to a streptococcus or a staphylococcus or to the tubercle bacillus, to the influenza bacillus, or perhaps to other micro-organisms. I have seen protracted pneumonias at times when there was no grip epidemic. I have always experienced difficulty in differentiating a possible tubercular consolidation or a diplococcus or an influenza consolidation, and from an empyema. In the cases reported by Dr. Walls there was bronchial breathing without râles over the base of the lung. These cases continue for weeks with sweats and fluctuating temperature, and we are led to suspect empyema. Every clinician of experience knows that a localized accumulation of pus in the thoracic cavity may give rise to bronchial breathing just as in pneumonia. An experience which I have had in more than one case shows the difficulties which may be encountered. Two winters ago, during the time when grip was epidemic, such a case of protracted pneumonia occurred. There was dulness and bronchial breathing over the base of the right lung. I introduced a needle into the lower portion of the thorax and obtained a turbid serum. A culture from this serum showed the presence of diplococci. On the following day another aspiration was made, but no fluid was obtained, probably because all of the fluid present had been evacuated at the first attempt. There was a lobar pneumonia which ran a chronic course for months.

DR. B. R. SHURLY, Detroit—I wish to call attention to observations made on some 16 cases presented; there seemed to be a pseudo-crisis on the fifth day.

DR. CAMPBELL, of Kansas—I would like to ask if the author has had any experience with oxygen gas.

DR. WALLS, in reply—The question of differential diagnosis has been brought up by Dr. Abt. I omitted this part in reading the paper because of the extent of the subject. The differential diagnosis between a consolidation and a collection of fluid at times is certainly hard to make. In one of the cases reported, thoracentesis was performed. Even though in that case the common signs of accumulation of fluid—dulness, dislocation of the heart, and diminution of Traube's space—were not present, it was thought that possibly there was a small collection of fluid in between the fissures of the lung. I did not say that there were no râles heard over the areas of bronchial breathing, but that there were no distinctly fine crepitant râles as heard in the early stages of pneumonia. Crepitating and mucous râles were heard over these areas. They might be heard over fluid, the sounds being conducted from the adjoining lung. The ages of the children varied from ten to fourteen months. I have had no experience with oxygen gas in these cases.

The Paris Students' Co-Operative Restaurant.—Shares to the number of 862 have already been disposed of, so the success of this undertaking is assured. No alcohol will be allowed on the premises, but the fare is to be of the best, at prices constantly lowered by the application of the profits. Professors Gide and Lavisse have been the moving spirits, both men with extensive experience in co-operative enterprises. The doors will open October 15.

MEMBRANOUS COLITIS.*

CHARLES DOUGLAS, M.D.
DETROIT, MICH.

Membranous colitis occurs most frequently in infants over six months old and less than two years, and may appear in those previously in good health. It is usually a very severe irritation, greatly endangering the health and life of the child. While it may follow a catarrhal disturbance, it commonly appears suddenly accompanied by vomiting, high fever, loss of appetite, severe pain and frequent large green stools of a mucous character. The vomiting usually disappears early and the temperature falls within safe limits. Should this not occur the prostration is very great and the child melts away so rapidly that its life is quickly endangered. Usually the abdomen is tender and somewhat swollen. The pain is severe and frequent, especially for a time before stool. Where the irritation is low in the colon, there is marked and severe tenesmus at stool causing an inch or two of the mucous membrane of the bowel to protrude. This is intensely congested and often shows patches of pseudo-membrane on its surface, which fact establishes the diagnosis.

The stools resemble those in catarrhal enteritis, except in the amount of blood, which is generally greater and more constantly present; but the only feature which establishes the diagnosis is the appearance of the pseudo-membrane. This shows as grayish-yellow opaque masses after the stool is washed away. It is then easily distinguished from the accompanying mucus, which is commonly large in quantity. The pseudo-membrane seldom appears in large amounts, and usually disappears from the stools, while the mucus and blood may continue for considerable time afterwards. Usually improvement is indicated by the absence of the blood and the lessening of the mucus, with the return of healthy yellow stool mixed with the mucus. Where this does not occur, and the mucus continues for more than a week as the predominating feature in the stool, the emaciation is marked and the case rapidly becomes grave indeed. The severity of the attack and the gravity of the prognosis are in proportion to the amount of mucus passed daily and the length of time it continues to come. These cases generally recover in ten days or two weeks; where they continue longer the prospect of recovery is not good.

This disease is very rare in young infants under six months of age and is mostly confined to those that are hand-fed, and also improperly fed. Rarely do we find a case appear in a nursing infant, particularly during the first months of its life. In hand-fed infants also, where intelligence demands yellow stools, and industry secures their continuance, it is indeed a very rare thing to see cases of "membranous colitis."

It has been the fortune of the writer to meet with three cases of this disease this year in very young infants. One was in a nursing infant ten days old; one in a hand-fed infant eighteen days old; and the last in an infant partly nursed and partly hand-fed, nine weeks old.

The first or nursed one was an infant, strong and well nourished, weighing nearly nine pounds when born. The mother was a large, active, rosy-colored woman, but one who suffered greatly from acidity and consequent heartburn during her pregnancy. So great was this that she was compelled to live almost entirely during the last two months of her pregnancy on meat, milk and eggs. She had a feeble labor, necessitating forceps delivery, with laceration of the perineum, which was repaired; she made an uneventful recovery, save that she persisted in having a temperature of 102 for several days, and also about 100 for a month or more after her labor. This was accompanied by a coated tongue. The mother was very carefully dieted from the day of labor, and her milk came on the fourth day. The child's bowels were green continually from birth and no food except a little sugar water and a small dilution of cream was fed until the mother nursed it. The stools continued green and slimy, showing only small traces of yellow, till the ninth day, when the child became violently disturbed with high fever, great pain, frequent green mucous stools, straining and tenesmus. It lost flesh rapidly and in the third day of its sickness passed some patches of opaque yellowish membrane looking much like those cast from the throat in diphtheria. The infant was removed from the breast entirely and fed with a cream mixture, on which it convalesced rapidly; the stools became yellow and well formed and all mucus disappeared in ten days. A microscopic examination of this membrane, made by Dr. Perkins, showed the membrane was structureless, like a mass of fibrin with no mucus or epithelial cells.

Culture from this pseudo-membrane showed a bacillus belonging to the colon group, but not the true colon bacillus described in text-books, as it did not coagulate milk, nor give the indol test. The structureless character of this pseudo-membrane showed it to be an exudate due to intoxication from the toxins of these bacilli. Injections of these toxins and the germs into guinea-pigs' abdomens showed an exudate formed over the intestines and the liver, having the same structureless character as the sample.

The second infant was eighteen days old when the writer was called in attendance. This was the fourth child of a mother unable to nurse her children. It had been fed at first on diluted cow's milk, then on diluted cream, next on almost raw oatmeal water and cream, with the result of loss of flesh, constant colic, constipation and stools, when voided, of yellow hard balls, coated with slime and having very foul odors. The symptoms and the recurring colic pointed to a sore spot in the bowel somewhere in the colon, as the pain always returned with great violence about fifteen minutes before stool. Six days after my first visit the stool contained a mass of tough yellowish-white membrane, also looking like that seen in the throat in diphtheria. With a careful adjustment of a cream mixture and the voiding of this membrane, this infant made a rapid recovery, having healthy stools.

A microscopic examination, also by Dr. Perkins, showed this membrane contained fibers of oatmeal husks, pus cells, and small masses of mucous tissue, and imbedded in the tissue were the bacilli of the streptococcus. Cultures made from this membrane showed the proteus vulgaris and streptococcus. Injections of this culture in very small quantities killed guinea-pigs and rabbits, and on the intestines and liver a similar membrane was developed. Experiments show that the growth of the streptococcus in the presence of this very fatal proteus vulgaris, increases the toxic property of the former.

Feeding the nearly raw oatmeal fibers to this infant caused abrasion of the mucous membrane, thus forming

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee of the Section: H. E. Tuley, Edwin Rosenthal and Samuel W. Kelley.

a favorable nidus for the entrance of these germs and the consequent formation of this membrane. This child now continues healthy and grows rapidly.

The third child, 9 weeks old, had been nursed by its mother, a delicate neurotic, suffering from middle ear disease. She had rose asthma disturbance every year so that she was compelled to leave her home in May and spend her summers in Lake Superior ports. She nursed her baby for a few weeks and it grew to ten pounds in weight. Sickness compelled her to wean it at five weeks old. Improper adjustment of food to the child's digestive power soon set up a disturbance, causing vomiting and colic with great fermentive accumulations of gas in the stomach and bowels. Changes in the food failed to reach the correct digestive results and the little one continued in distress, losing sleep and weight, till at 9 weeks old, when the writer first saw the infant, it weighed only eight pounds. Examination showed it much emaciated with a distended abdomen and the skin hanging loosely on its body and limbs. Vomiting followed every meal and constipation was the rule, with great pain before stools. The stools were yellow, dry, and covered with thick mucus. The pain at stool and the mucus over the discharges showed a sore spot low in the colon as in the second child. This infant had been fed too much at each meal and also had too much proteid in its food, thus causing indigestion, constipation and irritation of the colon. The nurse said it had passed some patches of membrane before my attendance, but I failed to find any. A careful adjustment of the food failed to make it grow and a wet nurse was necessary to save its life. With the latter it succeeded satisfactorily. The history of this case was so similar to that of No. 2, that the writer regrets his inability to secure a portion of the membrane for pathologic investigation.

While these cases do not conform to the usual symptoms seen in cases of membranous colitis, the writer feels that they belong to it, even though the pathologic evidences differ from each other. The very early age at which this irritation began and the varying character of the stools, make these cases interesting and is the writer's reason for presenting this subject. While only the first case showed the usual symptoms of loose bowels, recognized as accompanying "membranous colitis," the presence of membrane and mucus with pain at the stool even when with a constipated condition, establishes the fact that the irritation and distress are in the colon, and are of a membranous character. While the etiology is similar in these three cases, they show that the bacteriologic factors may differ greatly.

While the cultures from these two samples of membrane do not agree in character, one showing a colon bacillus and the other showing a mixed infection, the proteus vulgaris with the streptococcus, the irritation, pain and distress were similar, and the infants showed the same emaciation, fermentive disturbance and pain prior to stool.

The importance of recognizing the food as the cause of the sickness in both nursed and hand-fed infants, can not be overestimated. The difference in the character of the food will no doubt account for the different germs in these two cases, the nursed infant showing only a colon bacillus, while the hand-fed one showed two foreign ones.

Writers on this disease describe the loose slimy or mucous character of the stools and their great frequency; but here were two cases, Nos. 2 and 3, which showed a constipated stool of yellow color and yet membrane was present in both.

These cases illustrate the absolute necessity there is always for the physician to examine the stools himself in gastro-enteric disturbances. Few parents or nurses are skilful and watchful enough to read carefully the digestive process as it is illustrated in this stool product. Only the experienced eye, nose and finger of the physician is capable of doing this work correctly. Only by the knowledge obtained in this way can a correct conception of the digestive errors be obtained, and consequently the right changes be made to meet this difficulty in each and every case of gastro-intestinal disturbance. Without such personal examination by the physician, his ideas of the situation are necessarily second-hand ones and the treatment liable to be wrong.

These cases also show that different bacilli have the power, by their irritative qualities, to form a false membrane on the mucous membrane of the bowels.

URETERAL CALCULUS ACCURATELY LOCATED BY THE X-RAYS AND REMOVED BY AN EXTRAPERITONEAL OPERATION.*

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PHILADELPHIA.

Henry E. S., aged 10, of New Bloomfield, Pa., was admitted to the Jefferson Medical College Hospital Oct. 25, 1900, at the request of Dr. E. E. Moore.

Neither his family nor personal history, other than as related below, have any bearing on the case. When he was 2 years old he had an attack of pain in which he passed bloody urine. Five years ago—at the age of 5—he had another attack of severe pain in the region of the left kidney. The pain extended downward into the scrotum and to the head of the penis. It was finally relieved by the application of heat and the use of morphin. Similar attacks have recurred at varying intervals, sometimes every three or four days, sometimes not for two months. During the winter of 1897-98, in several attacks he passed bloody urine and uric acid crystals. What he thinks was a small stone escaped in September, 1900, but neither he nor any one else examined it carefully. In February, 1900, he had scarlet fever and since then his attacks have been much more frequent and severe. He has never had any pain on the right side.

On admission the entire left side of the abdomen was so painful that it was impossible to make any diagnosis as to the location of a stone, though the diagnosis of calculus was perfectly clear and had already been made by his physician. The urine which he passed on admission was clear, amber-colored, sp. gr. 1013, reaction acid, no albumin, sugar, blood, pus or casts present, urea 1.1 per cent.

Dr. Charles L. Leonard took a skiagraph (see Fig.) which showed a ureteral calculus about one-half the size of the last joint of the little finger, in the left ureter, which was thought to be at the pelvic brim, but at the operation was found a little below this level somewhat nearer the bladder.

At the operation, Oct. 31, 1900, I made an oblique incision from above the crest of the ilium and parallel

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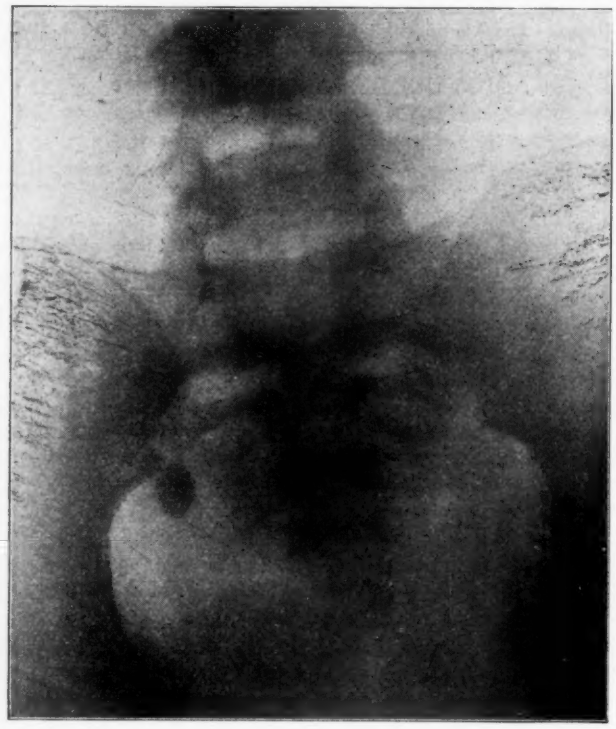
to it, extending to a point above the middle of Poupart's ligament, and pushed back the peritoneum. I had considerable difficulty in finding the ureter. It was raised with the peritoneum, but was so small, flattened and indistinct that it was some time before I could recognize it. Tracing it downward, just below the pelvic brim, I found a hard mass in which the ureter was apparently lost. No stone could be felt at first, but on cautiously cutting and tearing through the mass, I discovered a ureteral calculus measuring 1.5 cm. in length, 1 cm. in breadth and 8 mm. in thickness. The exterior was rough from the points of many spicules due to crystals, which by their fusion constituted the solid mass. The sharp spicula were especially marked at the two ends. Professor Coplin examined it and reported that the stone was quite dense; the nucleus was dark in color and gave the reaction for mucin. The shell was of calcium phosphate with a trace of organic matter.

Evidently the calculus had ulcerated its way through



the posterior wall of the ureter, had matted together the rectum and ureter and lay in a pouch which was partly intra-ureteral and partly extra-ureteral. The caliber of the ureter was not entirely blocked up by the calculus. The moment that I opened the ureter a very considerable amount of urine, which I estimated at about one-quarter of an ounce, escaped through the ureter from the somewhat hydronephrotic kidney. Though the kidney was somewhat distended, I judged that on removal of the obstruction it would recover itself, especially in view of the recuperative powers of childhood. The edges of the opening in the ureter were then closed by a continuous catgut suture. In view, however, of the inflammatory conditions present, as there would almost certainly be some leakage of urine, I packed a small amount of iodoform gauze against the sutured opening and led the end out through the wound. The muscular wall of the abdomen was then closed with a continuous silk suture, and the skin with interrupted silkworm gut sutures. The gauze packing was removed on the second day after the operation, as I found no leakage took place. He made a perfectly smooth recovery, the highest temperature having only once been 100 degrees. He was kept in bed for between three and four weeks, so as to allow firm union to occur, with a view to preventing a hernia.

March 22, 1901, a letter from Dr. Moore stated that when he reached home, November 28, he was suffering considerably from pain in the region of the left kidney. Examination of the urine showed the phosphates to be greatly in excess. A purge of calomel relieved him from pain and he has never had any since. There is also no sign of hernia at the site of the wound.

No remarks are needed save to call attention to the accuracy and value of the *x*-ray picture, both as an absolute verification of the diagnosis and as a guide at the time of operation. Instead of having to open the kidney with the idea that the stone might be there, or to examine the entire length of the ureter to find it, the skiagraph guided me at once to the exact location of the stone.

DISCUSSION.

DR. EDWIN ROSENTHAL, Philadelphia—I have at home a small calculus that was passed by a Russian boy per urethram. The stone had caused considerable pain and hemorrhage. Microscopic examination showed no diseased condition of the urethra, bladder, ureter or kidneys. The case was seen before the discovery of the *x*-rays and treatment was purely expectant.

I have in mind two cases ending fatally, which I watched carefully almost from their inception. The first diagnosis was calculus. This was followed by hydronephrosis, and still later by pyonephrosis. There was a large tumor on the affected side, which was aspirated once or twice before death. The postmortem revealed the presence of the calculus. If we had only known it I am certain that the life of both these persons could have been saved. Dr. Willy Meyer had examined these cases, and had stated that the pus was from the right side.

DR. C. L. LEONARD, Philadelphia—I have examined and found 47 cases of calculus in the kidney and ureter. In over 50 per cent. of the cases the stone was in the ureter. Of this number, in 4 cases, the expectant line of treatment has been followed, and the patients have passed the calculi. The exact localization of the calculi makes it rational in the case of minute calculi, to adopt this line of treatment. If the symptoms become more severe, the skiagraph enables us to locate and remove the calculus. Where the latter is lodged in the lower part of the ureter, and there has been much inflammation, it is very difficult in the male to reach the stone. In the female it is somewhat more easy. I have had four other cases in which small calculi have been passed while the patient has been waiting for operation. In cases like the case reported, the size of the stone makes it evident that operation is the only course of treatment. The skiagraph, however, localizes the area of operative intervention, simplifies it, and makes it complete.

DR. S. W. KELLEY, Cleveland—I feel gratified that Dr. Keen has reported this case. In my address on the first day, I emphasized the importance of surgery in children, and commented upon the general neglect of this department of pediatrics. A report of this kind is most appropriate for presentation to this Section, and we hope to have more of them.

DR. CLIFTON SCOTT, Des Moines—I am very sure that the value of the *x*-ray method here is of negative as well as of positive value. I had under observation an adult whose illness I diagnosed at first as nephritic colic. If an *x*-ray examination had failed to show the presence of a renal or a ureteral calculus, my error would have been shown. As the hemorrhage continued, and small clots were discharged, the case passed into other hands. An operation was undertaken in the region of the kidney. A tumor of endothelial origin was revealed which had invaded the pelvis of the kidney, and had given rise to the hemorrhage. There was no calculus present.

DR. W. W. KEEN, in reply—I have on at least four occasions cut down upon the kidney in adults under the impression that I had to deal with a stone, and in each instance no stone was found. I think that with the use of the *x*-rays the negative value is quite as great as its positive value by enabling us to avoid such mistakes in operation.

REMARKS ON SPINAL SURGERY, WITH ILLUSTRATIVE CASES.*

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The spinal canal has for many centuries been considered legitimate ground for operative procedures. As early as the 7th century the advisability of operation for fractured spine was urged by Paul d'Egine[1] and others. In the 16th century and since that time, various surgeons have advised operative interference for the relief of this condition, but it was probably not until the beginning of the 19th century that a definite operation was performed for a fractured spine. Since then the subject has constantly thrust itself into prominence and has been much debated and often with considerable heat and vigor. This was especially true of a discussion which took place in the Royal Society of Surgery of London in 1820.

About the same time (1823), A. Cooper wrote: "If you could save one life in ten, aye, one in a hundred, by such an operation, it is your duty to attempt it, notwithstanding any objections which some foolish persons may have urged against it. Though I may not live long enough to see the operation frequently performed, I have no doubt that it will be occasionally performed with success. There is no reason why it should not, and he who says it should not be attempted, is a blockhead." This opinion of the great English surgeon will be accepted by most of us, and it is not very flattering for our self-conceit to feel that at the present day we can not honestly offer a much more favorable prognosis than was given in this statement written nearly a century ago.

Even at the present day there is some difference of opinion on this subject. I remember only last year in an editorial in one of our own leading journals operation on this class of cases was almost condemned or at least no encouragement was given for operative interference. It is true that the majority of cases of severe injury to the spinal column must perish but undoubtedly many a life has been saved by timely interference. I say "timely," for unfortunately delay of a few days before the operation has been performed has in more than one case been responsible for its failure. The tendency in the past has been much more toward the "waiting and watching policy" than has been the case when the brain is compressed by bony fragments. There are quite as urgent reasons for rapid relief in cases of pressure on the cord as there are in cases of depressed fractures of the skull, though perhaps it must be said the results of operation for the relief of fractured vertebræ are less satisfactory than are those for fractured skull, at least such has been the case in the past. The reverse may be said to be true in regard to tumors. Early operation in cases of injury of the vertebræ is of the utmost importance. Of course at times there may be good reasons for delay. The patient may be in a condition of great shock due very possibly to severe injuries of other organs. In such an event it is wiser to wait until it at least can be determined that the case is not one which under any circumstances must end fatally. If it be such, no benefit can be derived from operation. Again, it is sometimes difficult to determine that the symptoms are not due to mere contusion of the cord, or to more pronounced hemorrhage within the substance of the cord—hematomyelia. A certain time must often elapse before this point can be determined.

In this class of cases where surgical interference is not indicated, the symptoms are apt to be of an irregular type. The muscular paralyses are not complete and often the muscles of the same group may not be equally affected; the anesthesia is only partial and paresthesia with patches of hyperesthesia is common. The symptoms of irritation are apt to be less pronounced, though there may be mild twitching at first of certain muscles. The reflexes are not apt to be abolished, though they may be altered. The following cases are in many respects typical:

CASE 1.—Concussion upper Dorsal Cord: Slight Disturbances, sensation and motion; Recovery: D. O. C., male, aged 20. On April 5, 1891, when intoxicated, fell two stories, lighting on his back. He was helpless when found. He complained of pain in the back of the neck. There was no deformity. On April 6, there was evidence of some weakness of the left arm, especially in the flexor muscles. Both patellar reflexes were very feeble. Several areas of paresthesia were present in the lower extremities and trunk. On April 7 and 8, the weakness of the right arm manifested itself. There was more or less persistent priapism. On April 12, the symptoms began to improve and continued so until he was discharged on May 25, when with the exception of slight weakness of the left arm he was practically well.

CASE 2.—Injury of Lumbar Cord; Probably due to hemorrhage; Disturbances of Motion and Sensation; Pain; Ultimate Recovery without Operation: J. O. B., male, aged 34, on July 23, 1889, fell down the shaft of an elevator a distance of 30 feet. He lighted on his feet but fell down and was unable to rise. He had lost almost all power over his lower extremities. He was taken to a hospital in an ambulance. He suffered from considerable neuralgic pains in his legs and feet, and his legs and thighs felt numb and were partially paralyzed.

He was brought to the Presbyterian Hospital on July 27 with a diagnosis of fracture of the second and third lumbar vertebræ. On examination it was found that the peroneal and anterior tibial groups of muscles were partially paralyzed, especially on the left side. There was an anesthetic band extending from the outer side of the foot upwards along the outer and posterior side of legs as far as the middle of the thighs. A few days later it was found that a. c. c. was greater than c. c. c.

It was considered wise to defer the operation as there seemed to be some improvement in the paralyzed muscles. The pain was disappearing, there were no spasmodic movements of the muscles and no contracture developed. Through August and September gradual though slow improvement both as regards motion and sensation took place. He was discharged from the hospital on October 1, at which time he could walk about the ward though he still suffered from foot-drop. After his discharge he continued slowly to improve and at the end of a year he was practically well.

CASE 3.—Concussion of Lower Dorsal Cord; Slight Disturbances of Sensation and Motion; Recovery without Operation: J. D., male, aged 25, on June 1, 1901, while in the act of boarding a car, was struck on the back by a car coming in the opposite direction. He was knocked down and when found by the ambulance surgeon was in a state of considerable shock. He was slightly alcoholic, and complained of extreme pain in the lower dorsal region.

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee of the Section: W. J. Mayo, H. O. Walker, and A. J. Ochsner.

1. Trans. by Rêné Briau, p. 409.

On admission his temp. was 99 1/3, pulse 102. There was a large effusion of blood in the lower dorsal region and apparently some deformity of the tenth, eleventh, and twelfth dorsal spines. He complained of shooting pains in the lower extremities and there was some loss of power in the muscles on the outer side of the legs and feet. There was some paraparesis in irregular patches on the back of his thighs and buttocks. The patella reflexes were diminished. There was no complete anesthesia.

The diagnosis was made of hematomyelia in the lower dorsal and upper lumbar cord. On the day following his admission to the hospital his symptoms began to improve. At the end of two weeks the muscular paresis had almost disappeared, though there were still some irregular areas of diminished sensation. The patella reflexes at this time were somewhat exaggerated. On August 1 he was able with support to move about the ward, and when he was discharged on August 8 his paralyses had practically disappeared. By November 1 he was able to resume work, having entirely recovered except for some slight stiffness and an occasional pain in the back.

CASE 4.—Concussion of lower Dorsal Cord; Disturbances of Sensation and Motion; Recovery: H. L., male, aged 44, on March 20, 1895, fell backward over a pile of stones. In ten minutes there was complete loss of power in both lower extremities. This persisted for a few hours. There was also complete anesthesia below a line drawn through the umbilicus. For the first few hours the patella reflexes were lost. At the end of 24 hours slight improvement in the motor paralysis began. But little change occurred in the area of anesthesia, until after a week had elapsed. At this time also the reflexes began to reappear. At the end of three weeks he had gained almost complete control of his lower extremities and the anesthesia was rapidly disappearing. At the end of six weeks all symptoms had practically disappeared.

On the other hand where there is definite pressure of bone on some portion of the cord the parts supplied from this center are apt to be more distinctly and more decidedly affected. The paralyses are generally complete and more regular as to grouping; the anesthesia also is apt to be complete with or without a band of hyperesthesia. The reflexes are apt to be abolished. Generally within a few hours a differential diagnosis between these two conditions can be made, but if at the end of 12 or 24 hours there still be question as to the cause of the paralyses it seems to me wiser to at least do an exploratory operation. The danger of this is slight. If a fracture be found there can be no question as to the propriety of the operation. If none be found but little harm has been done to the patient. In similar cases of injuries to the head it is almost routine procedure to cut down upon the skull in order to ascertain if a fracture be present. In the spine the operation is, of course, somewhat more severe, but not sufficiently so to contra-indicate its performance in cases of doubt.

The differences between these two classes of cases are sometimes, however, less marked, and as already said in certain cases in the first 12 or 24 hours it is sometimes exceedingly difficult to determine whether or not the lesion is one which can be relieved by operation. Where the symptoms are severe there can be but little question between concussion on the one hand and compression or crush on the other, but it is in the milder cases where the surgeon must sometimes be in doubt; and here a delay of 12, 24 or even 48 hours can do but little harm, and if the diagnosis be uncertain it is wiser to delay. In the severer cases, there can seldom be question between mere concussion and compression by bony fragments. The question, however, will be whether the cord be completely crushed or whether it be merely contused and pressed upon by broken bone. In many cases it is impossible within the first few hours to determine which of these conditions is present. A day or two's delay will probably settle this point. But it is exactly such delay which makes the recovery hopeless.

As yet, we have not sufficient experience or knowledge to make any definite statement concerning the early symptoms which indicate complete destruction of the cord. We do know, however, that if certain symptoms be allowed to persist for days or weeks that the case will be hopeless. It is our duty to make an attempt to relieve these symptoms and their cause before it is too late. It has been stated more than once that where there is complete loss of sensation, motion and patellar reflexes in both lower extremities that the symptoms indicate a complete crush of the cord and that the case is absolutely hopeless. This view, however, is not correct, as has been shown by more than one case where all these symptoms have been present, and yet where after removal of fragments of bone recovery has resulted. The following case is to be added to this list. In this case both deep and superficial reflexes were lost. Had operation been delayed, however, they might have returned.

CASE 5.—Fracture of seventh Dorsal Vertebra; Pressure on Cord producing loss of Sensation and Motion and patellar reflexes; Operation; Recovery: J. L., male, aged 27, was thrown from a railroad train on July 3, 1891, striking on his back. For a few minutes consciousness was lost. When brought to the hospital three hours later, there was found to be complete muscular paralysis of both lower extremities, retention of urine and loss of power over rectum. He was in condition of slight shock; temperature 100, pulse 110. There was complete loss of sensation below a line just beneath the tip of the ensiform cartilage. Tendon reflexes in both knees, as also the cremasteric and abdominal, were completely lost. At the end of 8 hours after the accident his temperature had risen to 103.5; loss of motion and sensation, and patella reflexes remained as before. On examination of his back there was found to be a depression below the seventh dorsal spine, at which point there was marked local tenderness.

The diagnosis of fracture of the seventh dorsal vertebra was made and operation advised. One hour later, that is to say, nine hours after the injury, ether was administered. An incision was made from the fifth to the eighth dorsal spines. The spinous process and the laminæ of the seventh dorsal vertebra were found shattered into several fragments. A line of fracture extended forwards on the right side into the transverse process. Four or five bony fragments were removed. The dura was lacerated and the cord was contused, markedly congested and studded here and there with small hemorrhages. A probe passed upwards and downwards met with no further obstruction. The wound was left partially open, as was also the dura.

The shock of the operation was very slight, the patient making an excellent recovery. For five days no special change in symptoms was noted. He then began to feel some tingling and pricking on the outer side of his thighs and legs. On the 14th day he was able to slightly move his toes and at this time sensation began to return in his lower extremities. Improvement continued; he began to gain control over his bladder and rectum. On the 30th day he could draw his legs up and down in bed, flexing his knees. His patella reflexes had returned to a slight degree in each knee. On the 60th day he was able to sit up in a chair and sensation was rapidly returning. He left the hospital on the 76th day after his accident and at that time could walk when

supported on each side. He came to see me three months later and reported that he was about to resume his work. He still felt some slight weakness in his lower extremities but sensation and his patella reflexes seemed normal. Some five years later he met me on the street and reported that he had been perfectly well ever since, that his back was as strong and as limber as ever.

There is a certain class of cases where following injury of the cord, and immediate development of severe symptoms, improvement has set in at an early period and has been up to a certain point and for a certain time progressive. Then, after the expiration of weeks, perhaps of months, it ceases, degenerate changes begin, and if unrelieved in a year or two, bedsores, cystitis or some other complication will end the patient's very miserable existence. In such patients the symptoms may be due to lesions of different character, to blood and inflammatory extravasations as well as to pressure by fragments of bone. The former disappear gradually as time advances, the latter can only be removed by operation. It is difficult to determine which one of these causes is responsible for the symptoms but as long as improvement continues it is wiser to wait unless there be proof positive that a fragment of bone presses on the cord; but as soon as it can be ascertained that progress has ceased and degenerative changes have begun then operation should at once be resorted to. It may not be a success, for the degeneration already begun in certain tracts may be beyond recovery, but at least it should be attempted as it can do no harm and all hope of recovery is otherwise rejected.

It should always be borne in mind that spinal centers will, in spite of severe injury or long continued irritation, still preserve their vitality and that after the removal of the irritation or destroying cause they have remarkable recuperating power which enables them to rapidly gain control over their lost functions. A case where such an operation was remarkably successful is as follows:

CASE 6.—Old Fracture Fourth Cervical Vertebra; Extensive Paralysis resulting; Laminectomy eight months later; Cure: E. G., aged 33, a sailor, in October, 1889, during a storm at sea, was struck in the right side of the head by an iron tackle fastened to the end of a loose sail. He was thrown violently to the deck, striking against the anchor. When found he was doubled up, arms and thighs rigidly flexed; head inclined forward, resting on his chest. For a time he was unconscious; on recovering consciousness in an hour or so there was found to be paralysis of the trunk and extremity below the clavicles. It was complete except in the right leg, where it was partial. The head remained flexed on the chest, the patient not being able to hold it erect or move it laterally. For a day or two following the accident he was delirious and restless. For two weeks deglutition was difficult. There was retention of urine for several days; incontinence for one month. For some days there was priapism. Obstinate constipation persisted for some weeks. At first he complained of severe pain in the back of the neck, at first sharp, later dull and aching. Sensation was moderately disturbed. In addition to areas of anesthesia there was for some weeks sensations of pricking and formication.

The rigidity of the arms and legs with more or less muscular paralysis persisted until December. During this time contractures of various muscles developed, as well as wasting of groups of muscles. The paralysis of the right leg slowly improved. After Christmas the right arm began to improve slowly and soon after some return of power in the left arm was noticed. During January he was able to move slightly his arms and legs, and at the end of the month could stand when well supported but could not walk. The improvement, however, did not continue and during February there was some deterioration in muscular power. Since that time there had been no progress in spite of the use of electricity and massage. Marked rigidity of the muscles with contractures of the left upper extremity developed. Some slight motion of the head from right to left returned but he was unable to either raise it from his chest or to hold it erect. Any motion of his extremities or head produced pain on the left side of the neck near the fifth spine where tenderness was the greatest.

He was admitted to the Presbyterian Hospital, May 26, 1890. He was a fairly nourished man with normal temperature. On examination it was found that there was marked loss of power in the left forearm and hand and practically complete paralysis of the arm and shoulder. There was considerable paralysis of both lower extremities to such an extent that it was impossible for him to stand upright without a support on each side. There was also considerable rigidity of the muscles of the left upper extremity. There was considerable atrophy of all the muscles of both extremities, being especially marked in the left arm and trapezius. There was decided paralysis of the muscles of the back of the neck, so much so that the head rested forward with the chin on the chest. He could not raise it and lateral motion was very limited. The areas of anesthesia were somewhat irregular. Sensation below the third rib was very considerably diminished, being most marked in the lower and upper extremities and in the left side of the trunk. The patella reflex of the left leg was markedly exaggerated, and the right slightly increased. There was slight clonus on each side. There were evidences of vasomotor disturbances, the skin being moist and glossy. When in bed resting quietly the patient was free from pain, but movement caused considerable pain, especially in the back of the neck and left shoulder. The patient wore a jury-mast to support his head. Tenderness was elicited by pressure on the back of the neck between the fourth and fifth cervical spines where, on rotation of the head, there was an indistinct crepitus. It was decided that the cord was compressed by either bone or inflammatory exudate in the neighborhood of the fourth or fifth cervical vertebra.

Operation June 4; ether. An incision was made along the spines from the base of the skull to the sixth or seventh cervical spine. When the spines were disclosed it was seen that there was some displacement of the fourth with its lamina. The spine and lamina of the fourth and fifth cervical vertebra were removed. The fourth lamina had evidently been fractured and exerted, posteriorly, considerable pressure on the cord. Under it was found a new layer of connective tissue with a much thickened dura, the combined thickness of which was about a quarter of an inch. No adipose tissue was present and the thickening extended from the middle of the third to the lower border of the fifth vertebra. It was evidently due to a hemorrhage which had become organized. The dura was found adherent to the cord, it was opened and the cord was seen to be more or less congested, the layer of connective tissue was removed and the dura loosely sutured. The wound was irrigated and partially closed by suture. Moderate shock and considerable pain followed. Elevation of temperature was very slight, and the wound healing was uneventful. On June 10, the patient noticed some improvement of the right hand, as he was able to clinch his fingers tightly and more motion could be made at the elbow. On June 26, improvement was very noticeable; even with his left hand he could pick up a handkerchief from the bed. Improvement of all the muscles was rapid and progressing so that on July 1 he was able to walk with slight support. On July 10, with the aid of a cane he was able to walk up and down the ward and could raise both arms to the top of his head. His pains have entirely disappeared as had also the muscular contractions. By the dynamometer his grip increased at the rate of three pounds a week. On August 8 he walked a mile and a half and could move arms and head freely. His head when raised could be held erect for a few minutes, but he still wore a jury-mast. On August 10 he went to a dime museum where he exhibited himself. In the following January he was able to cast aside his jury-mast. He could walk many miles a day without fa-

tigue, and had almost perfect use of his hands and arms. In 1898, he in the meantime having gone back to England, wrote me a letter stating he was perfectly well.

Other cases of laminectomy performed by me are as follows:

CASE 7.—Fracture of Tenth Dorsal Vertebra; Operation; Death in 2 months from Sepsis due to Bed-sores and Cystitis: J. H., male, aged 42, on the afternoon of June 20, 1891, fell from a height of 30 feet, struck on his back and became at once paralyzed below the waist line. On admission to the hospital two hours later, he was suffering from considerable shock, temperature 100.5, respiration 36, pulse 120. There was complete muscular paralysis below a line around the umbilicus. There was complete anesthesia below a line drawn around the crests of the ilium and above this a band three inches deep of diminished sensation. His reflexes, both deep and superficial, were abolished. Ankle clonus was present. Respiration was mainly thoracic and somewhat labored. The eleventh dorsal spine was prominent and seemed to deviate towards the left. At this point there was marked local tenderness. The bladder and rectum were paralyzed.

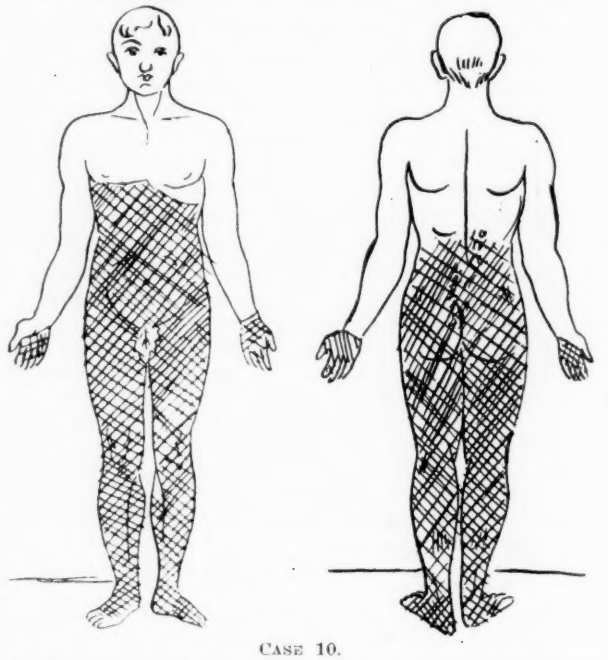
The diagnosis was made of fracture of the tenth or eleventh dorsal vertebra with a crush of the cord at this point. Immediate operation was advised but the patient refused to consent until June 27. During this seven days' delay the patient lost considerable strength, his temperature was elevated two or three degrees and a cystitis developed. On the 27, ether was administered. An incision was made from the tenth dorsal to the first lumbar spine. A fracture was found of the tenth dorsal spine running along the left lamina of the same vertebra. The lamina of the eleventh was also fractured. Several bony fragments, which had pressed upon the cord and lacerated the dura, were removed. The cord was contused and deeply congested but was not completely crushed. There was considerable inflammatory exudate between the dura and the cord. The wound was irrigated and partially sutured. Some shock followed but three days later the patient's condition seemed somewhat improved. The cystitis, however, continued and a sloughing bed-sore developed over the sacrum. Through the month of July there was gradual increase of the bed-sores, and a nephritis developed. He was free from pain and the wound healed by August 1. Soon after this he began to fail, and on August 22 he died from sepsis due to bed-sores and from uremia.

CASE 8.—Fracture of Seventh Cervical Vertebra; Operation; Death: T. C., male, aged 41, fell while intoxicated on June 1, 1892, from a height of 8 feet and struck on his head and neck. He was unconscious for a few moments; paralysis of his lower extremities with anesthesia immediately developed. When admitted to the hospital his general condition was good; temperature 98, respiration 16, pulse 72. On examination there was complete motor and sensory paralysis from a line in front two inches above the nipples and extending laterally at about the level of the axillary artery. The patella reflexes were completely lost; no ankle clonus; no paralysis or anesthesia of the arms; priapism.

Operation six hours later: An incision with its center over the seventh cervical spine was made. The spine and arch of the seventh cervical vertebra were found fractured extensively. Several bony fragments were removed. The dura was torn. The cord was contused and congested but seemed intact. The probe passed three inches upward and downward felt no irregularity of bone. The wound was irrigated and partially sutured. Very little shock followed the operation, but the temperature gradually rose; the respiration became more embarrassed and he died at 6 a. m. on June 2.

CASE 9.—Fracture of Third Cervical Vertebra; Laminectomy; Death: G. A., 65 years, on the afternoon of July 12, 1890, fell three stories, striking on his head and side. Shock was profound and breathing very much embarrassed, the extraordinary muscles of respiration being extensively used. On admission to the hospital at 2:30 p. m., his temperature was 97.5. For some hours there was no distinct evidence of paralysis. At about 6 p. m. it was noticed first in the muscles of the right leg and spread rapidly to the muscles of the entire body and extremities. At 9:30 p. m. the temperature was 103.5; there was complete anesthesia below a line drawn through the nipples and also a band running down both arms. All reflexes were entirely abolished. During the night, stupor developed and the temperature rose to 106. Operation was made at 1:30 p. m. on July 13. No anesthetic was employed. An incision was made from the base of the skull to the seventh cervical spine. A comminuted fracture of the second spine and lamina of the third was found. Several bony fragments were removed. The right transverse process of the third vertebra was loose but was not disturbed. The dura was not opened. The operation had little effect on the patient. The stupor increased, the temperature rose to 109, the breathing became shallower and he died in twelve hours from respiratory failure.

CASE 10.—Fracture of Cervical Vertebra; Laminectomy; Failure to find seat of crushed Cord because of irregular Distribution of Paralysis: M. M., female, aged 35, was, on September 27, when in the act of getting into a folding bed, struck by the upper erect portion falling against her back across the shoulders and pinning her down in a doubled-up position, where she remained for fifteen minutes before she was extricated. When found she was unable to move her trunk and her upper and lower extremities felt numb and powerless. Shortly afterwards there was complete paralysis of the lower extremities and she was unable to close her fists. Retention of urine and obstinate constipation followed. She suffered some pain in the back of her neck and shoulders but it was not severe She felt numbness in the upper and lower extremities and trunk. She was unable to move her arms and to flex, extend, and rotate the forearms. The bladder and rectum remained paralyzed.



CASE 10.

Patient has sensation of touch all over, but in shaded lines on trunk the sensations of pain, heat and cold are absent. Note the difference in hands.

Patient has sensation of touch all over, but in shaded lines on trunk the sensations of pain, heat and cold are absent. Note the difference in hands.

She was admitted to the hospital three days later. She was a large fleshy woman in a fair general condition; mind clear. She complained of slight pain in the back of neck, of numbness and sensation of pins and needles all over the body. Motor paralysis was complete below the diaphragm. The diaphragm and intercostal muscles acted normally. There was partial paralysis of arms and shoulders, but she could move them slowly both in flexion and extension, which movements, however, were diminished at the elbow and absolutely lost at the wrist. All reflexes below the waist line were abolished. The eyes were normal. There was some pain and tenderness at the lower part of the back of the neck, but no irregularity of the

bony outline could be felt either in the throat or in the neck. There was no stiffness of the muscles of the neck.

The diagnosis of fracture dislocation in the neighborhood of the sixth or seventh cervical vertebra was made. The symptoms, both motor and sensory, seemed to point to the location of the injury, probably to a crush of the cord at a point between the sixth cervical and second dorsal vertebra.

As will be seen in the diagram there was an area of anesthesia on the hands but none on the arms.

Consent, however, could not be obtained to operation until October 5, when, with the aid of Schleich's infiltration method, with a few whiffs of chloroform, an incision six and a half inches long was made from the fourth cervical to the first dorsal spines. The spines and laminæ of the sixth and seventh cervical were removed. There were no evidences of hemorrhage or fractured bone. A probe passed four inches downward inside the spinal canal and one and a half inches upward met with no obstruction. The dura looked normal. It was opened but there was no evidence of injury to the cord; where it was exposed for three or four inches the dura was sutured and the external wound closed by suture with the exception of a narrow space for a gauze drain. Time of operation was 45 minutes.

No shock followed, but also no improvement. The temperature which before the operation had ranged between 98.5 and 101 now steadily rose, till on October 11 it reached 106. Extensive bed-sores with rapidly spreading sloughs developed on each buttock. The temperature continued to rise till on the 19th it reached 110, on which day she died.

At autopsy there was found to have been a complete separation between the fourth and fifth cervical vertebra where there evidently had been a dislocation which had immediately sprung back after crushing the cord opposite the interspace between the fourth and fifth cervical vertebra. For half an inch or so the cord at this point was disintegrated and running upward and downward from this point were degenerated nerve tracts. The distribution of nerves in this case was most peculiar. A more careful study of sections of the cord, etc., will be found in "Med. and Surg. Report of Presbyterian Hospital," New York. **Vol. V.**

In 159 cases collected by Lloyd there were 59 deaths following immediately after operation and 32 at a later period. The so-called operative mortality was 49.18 per cent. Of my own laminectomies in fractures of the spine, 6 in number, 2 have recovered and 4 have died.

(To be continued.)

THE GYNECOLOGIST AS CONSULTANT.*

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Since my audience to-day consists mainly of men in general practice, who have to deal with more common, though possibly sometimes fully as difficult, conditions, as those encountered by the specialists, I thought it would be well to touch briefly upon a subject which must interest all of us, and to suggest a few ideas upon which may be based a discussion which may serve to elucidate more freely certain points dealing with the relations of the gynecologist to the general practitioner, and show how one can help the other to their mutual advantage as well as to the best interests of the patient. I shall, therefore, deal briefly with the following questions: 1. What are the qualifications necessary to render a man fit to take up gynecology as a specialty? 2. When should his aid be sought by the general practitioner? 3. How can this aid be sought for and given without detriment to the general practitioner?

In the first place the gynecologist, no less than any other specialist, must have had a thorough, broad training and experience in general medicine and surgery before taking up his specialty. But just here—quoting from a paper written by me some time ago—I would say that the argument so often heard, that gynecology is only a branch of surgery, and that the general surgeon is therefore better equipped to operate upon diseased conditions of the reproductive organs than is the gynecologist, would not seem to be wholly logical. Although only a branch of general surgery, under the circumstances existing at the present day, gynecology presents such a wide and important field that it requires the entire attention of the man who intends to obtain the best possible results. It is true that no one should practice gynecology unless he has a thorough understanding of the principles of general surgery, and every surgeon should also have had a good laboratory training in bacteriology and pathology. As a consequence of such a deficiency in their training we too often find surgeons who have little or no appreciation of surgery except from a mechanical standpoint. Much still remains to be developed in gynecology, from the operative point of view as well as from the pathologic and bacteriologic sides of the question, and it will hardly be disputed that the gynecologist, all other things being equal, is better qualified to scientifically investigate the problems connected with his special branch than those who are able to devote only a part of their time to the subject. It is owing to the investigations of the gynecologist that pelvic surgery has reached the high plane that it holds to-day. To anyone familiar with the development of the various operative procedures that are carried out for pathologic lesions of the pelvis, it is readily apparent that the necessary technique has been evolved by the gynecologist and not by the general surgeon. In order to appreciate the present condition of affairs one has only to compare the results obtained by any well-known general surgeon with those of the gynecologist in the first rank in a similar line of work, both as to morbidity and mortality. Taken as a whole the evidence will be found to be strongly in favor of the gynecologist. That there really exists a wide difference between pelvic operations and those belonging to other parts of the body can be well seen by observing the methods of procedure of a general surgeon and those of a trained gynecologist when operating for pelvic inflammatory diseases.

Of course it is evident that the specialist should be as broad in his views as the general surgeon; and to be a good gynecologist nowadays demands the preliminary training of the general surgeon supplemented later by an especial study of the morbid conditions existing in certain parts of the body.

2. When should the aid of the gynecologist be sought by the general practitioner? Patients frequently come to the specialist who have been under the care of the general practitioner or general surgeon for varying periods of time, without having received any relief from the more or less expensive and more or less tedious treatment that has been carried out. Nor should these failures be a matter of surprise when we consider that the exact pathologic condition in not a few cases has been unrecognized, and that unless we start with the right diagnosis our treatment must always be vague and usually ineffectual. For the best interest, then,

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of all parties concerned, the family physician no less than the patient, it would seem advisable, whenever a patient presents symptoms that suggest some pelvic inflammatory disease, and no improvement has taken place after a reasonable length of time from the course of treatment that is being pursued, a pelvic examination should be carried out by one who devotes his whole time to dealing with pathologic conditions of the pelvic organs. If such a procedure were carried out more frequently I have no doubt that many patients would be relieved before the local condition has had time to become more or less chronic. Again, there is no doubt that as a consequence of such an examination made at an early date many a patient would be spared an unnecessary routine of local treatment. It is no rare experience to meet with a patient who has undergone a long course of treatment for a supposed displacement of the uterus, and in whom careful examination (under anesthesia if necessary) shows that the organ is in a normal position. It may be argued that such a finding does not necessarily cast doubt upon the correctness of the original diagnosis, but even the most experienced among us will not hesitate to confess, that it is often difficult to recognize the true position of the uterus in certain cases, and that it is still harder to put the organ in its normal position. Under these circumstances one can hardly avoid the conclusion that a considerable number of women are treated for imaginary malpositions of the uterus. Perhaps a brief report of a few cases will serve to demonstrate the importance of the early recognition of diseased pelvic conditions.

CASE 1.—Chronic adherent Salpingitis and Ovaritis: Mrs. K. K., aged 25, married six years; occupation, seamstress, nullipara; one miscarriage five years ago at three months. Her menses first appeared when she was 13 years of age; they have always been regular and painless, but scanty. She has had a profuse leucorrheal discharge. She has been complaining for the past five years of a sharp pain with soreness in the right lower abdomen, which is increased on exertion. Five years ago she was in bed for two weeks on this account; the pain has been much worse during the past year. She has also had a great deal of backache. The family history has no special bearing on the case.

On examination of the pelvic organs the following notes were recorded: The vaginal outlet is relaxed, the cervix is in the axis of the vagina. The uterus is forwards, enlarged, sensitive but movable. On the right side an adherent tubo-ovarian mass can be made out. The left tube and ovary also seem to be adherent. After a careful examination under anesthesia the adherent tubes and ovaries and the vermiform appendix were removed. This patient had been under the care of a general practitioner for over a year. Twice weekly, she had received local treatment and medicine for which she paid three dollars a visit. Her income was five dollars a week. Finally, she lost all confidence in her medical adviser and came to our clinic. By the surgical procedures that were carried out she was entirely relieved, although her condition at the time of the operation was far from satisfactory, as in addition to the local condition she had developed markedly hysterical symptoms. When she came to us her resources were so reduced that she was willing to have the operation postponed until she could make money enough to pay her hospital expenses. One can not but believe that this patient's prolonged suffering and reduced financial condition were undoubtedly largely due to the fact that the local condition had not been recognized.

CASE 2.—Cancer of the Cervix: A. G., aged 58, IV-para; oldest child 33, youngest 19. Menopause at 43 years of age. Two years ago a large amount of blood came from the vagina. The flow ceased, however, within a few hours and no vaginal examination was made. In August, 1900, she began to have attacks of slight bleeding from the vagina, and during the past month she has been passing small quantities of blood at intervals of every few days. The symptoms that she presented when she came under our notice were the bloody discharge from the vagina, with general asthenia. On examination the outlet was found somewhat contracted; the cervix was flush with the vagina, particularly on the right side; the tissue of the cervix was friable, and even gentle manipulation caused a profuse hemorrhage. The uterus was enlarged. After an anesthetic had been administered, on pelvic examination the uterus was found to be of about the size of that of a two months' pregnancy. The cervical canal was dilated, and several ounces of a muco-purulent fluid escaped. The cervix was then thoroughly curetted and cauterized, and the cervical lips were brought together with ligatures after packing the uterus with gauze. Vaginal hysterectomy was then performed. On the right side of the vaginal wall it was necessary to incise the wall well up into the lateral fornix in order to get beyond the infiltrated tissue. In doing this the ureter was tied on this side. The patient, however, made a practically uninterrupted convalescence. On the day after the operation she began to have considerable distress in the right iliac region, and at this time we could detect a resistant globular mass in this region. No urinary discharge occurred from the vagina at this time, and she was secreting from 36 to 56 ounces of urine daily. On the sixth day after the operation the urine began to come from the vagina; the tenderness in the right side disappeared, and the amount of urine passed from the bladder now materially decreased. We believe that we had to deal with a transient hydronephrosis as a result of the ligation of the ureter, but that an uretero-vaginal fistula occurred.[1] With this exception the convalescence has been normal and so far as we can ascertain at the present time there has been no recurrence of the disease. On examination of the mass which was removed, it was found to consist of the dilated uterine body—which was practically a pus sac—and the cervix uteri which was involved in the cancerous growth. Microscopic examination showed a squamous-celled carcinoma of the cervix.

If this case had been examined at the time when she had the first hemorrhage some two years ago, the condition would in all probability have been suspected. No examination, however, was made until a few weeks before she came under our care although there had been two or three evidences of a bloody discharge in a woman who had reached the menopause some fifteen years before. This is one of the many instances of this condition that are overlooked until it is too late to do much beyond giving the patient a lease of life and relieve her of some discomforts. Such cases should be a warning to all of us, to take nothing for granted when a patient is bleeding from the vagina, be it ever so slight in amount.

CASE 3.—Extra-uterine Pregnancy: Mrs. M. S., aged 35, married, III-para; oldest child 10, youngest 6. One miscarriage, eleven years ago at three months. The patient had been well until she was suddenly seized with a severe pain in the left lower abdomen, which was accompanied with a feeling of faintness, cold sweats and a bloody discharge from the vagina. When I saw her some three hours after the beginning of the attack the abdomen was somewhat distended. On vaginal examination a fluctuating mass could be palpated in the left side of the pelvis. The expression was anxious, the pulse was 120. We concluded that she was suffering from a tubal pregnancy which had ruptured into the broad ligament. We watched the patient for the next few hours, and as she gradually improved, we determined not to carry out any operative procedures at the moment, preferring to wait until she became stronger. After a week had elapsed she entered the hospital, and an abdominal section was performed. A considerable amount of free and clotted blood was found in the abdominal cavity; there was also a tubo-ovarian mass on the left side as large as the closed fist, which was undoubtedly the gestation sac. This was removed. The tube and ovary on the right side were adherent, and after enucleation they also were removed.

1. Careful examination failed to show any injury to the bladder. Three months following the operation the fistula closed.

The debris in the pelvis was wiped out and the abdomen was flushed with salt solution. We closed the abdomen without drainage after pouring into it 500 c.c. of a sterile salt solution. The patient made an uninterrupted convalescence. The microscopic examination confirmed the clinical diagnosis. This patient's condition had been early recognized by her attending physician, and he had at once sought additional help.

Such cases undoubtedly are frequently being met with by the general practitioner, in which the history is suggestive of an abortion or where the patient has missed several menstrual periods, and then suddenly has an attack similar to the one that we have just described. If such cases are examined at once and seen in consultation by a competent gynecologist, many lives would undoubtedly be saved by the immediate institution of the necessary operative procedures.

CASE 4.—Double inflammatory disease of the Tubes and Ovaries with a sub-peritoneal Myoma of the Uterus: S. T., widow, aged 37, nullipara. For twenty years she has complained of a pain in the back, and for the past seventeen years, off and on, she has had a "neuralgic" pain in the left ovarian region. For five years she has had sharp pains at frequent intervals in the lower abdomen. During the past ten years she has had thirty attacks of pelvic peritonitis, which necessitated her staying in bed for from three days to two weeks at each attack. These attacks have become more severe during the last two years; the last one occurring in December, 1898. Three days prior to this attack I examined her and found a sub-peritoneal myoma as large as a fetal head. The small uterus could be made out beneath and attached to the myoma. The lateral structures were also adherent on either side. We advised that an examination be made under an anesthetic and the necessary operative procedures be carried out. The patient, however, would not give her consent. Three days later she had another attack of pelvic peritonitis. I attended her during this illness and after a two weeks' siege she recovered. She now concluded to submit to operative measures. On January 13, 1899, an operation was performed consisting of a myomectomy and a double salpingo-oöphorectomy, with removal of the vermiform appendix—which was slightly adherent—and the separation of many velamentous adhesions between the small and large intestines. The omentum was also adherent to the myomatous tumor and to the broad ligament. On the left side we had to deal with a hydrosalpinx and on the right a hematosalpinx. The lateral structures were released and removed after separating many strong adhesions. The patient made an uninterrupted convalescence and she is now well.

In all the years during which she had been suffering she had only been examined once or twice per vaginam prior to coming to us, and the physician had mistaken the myomatous tumor for the uterus. The only treatment that she had received was general massage, and a few applications of cotton tampons to the cul-de-sac. It seems hardly conceivable that such a condition of affairs could exist, and yet pass unnoticed, particularly as this woman had had so many attacks of pelvic peritonitis. Shortly before coming to us she had taken out a life insurance policy for $100,000, and I feel quite sure that no company would have been willing to have assumed this risk, if they could have known of the condition of the pelvic organs.

I could readily multiply these instances at great length, but I will not take up any more of your time by doing so. I am free to confess that the specialist makes mistakes, some of them grave, but one can not help but feel that in the very nature of things they must be rarer than those of the general practitioner whose attention from the study of special organs is so perpetually being distracted by his multifarious duties.

3. How can the general practitioner call in the aid of a specialist without detriment to his own interests and reputation? In the first place he can be assured that as a rule the patient will appraciate his efforts to do the best for her, whereas his mistakes and delays in calling in the aid of a specialist will be spread abroad by the patient, as soon as she discovers that other treatment might have proved beneficial long before. Loss of confidence in the family physician has far-reaching results and its effects can not be reckoned merely in dollars and cents. Secondly, it is easy for the general practitioner to guard his own interests by applying to a specialist, who is not only competent but who is a gentleman in the truest sense of the word. Again, often it will be found that no operative measures are necessary and in these cases the specialist will leave the patient in the care of her physician, and the latter can go on treating her with the full assurance that everything that is necessary is being done. As a specialist I can assure you that it is distasteful to me above all things to meet with patients who have lost all confidence in their family physician, especially when I see that the latter could have readily relieved himself of the responsibility without losing either in money or in professional reputation. One cannot but feel that the existence of full confidence between patient, family physician and specialist, is undoubtedly productive of the best results for all parties concerned.

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THE RATIONALE AND TECHNIC OF PNEUMATIC AURAL MASSAGE.

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The estimate of von Troeltsch that one-third of all adults are deaf in one or both ears has never been authoritatively questioned, and the extensive studies of school-children by Bezold and others have shown even in early life a serious loss in from 5 to 10 per cent. of all examined. As our clinical statistics prove that the great majority of these defects are due to impaired conducting apparatus and but a tithe to nerve-lesion, we are constantly facing the problem of how best to improve this conducting apparatus, both to check any progress of the defect and to regain, if possible, what has been lost. To this end the restoration of impaired mobility has long seemed a cardinal measure and hundreds of devices have been brought forward with more or less ardent claims as to their efficacy. The last word will not soon be said as to many of these, nor can any one man fully test them all; yet some twenty years of constant employment of various forms of massage has enabled me to form a fair opinion of the principles on which they must proceed and to recognize the fallacies which are too often presented in the advocacy of new candidates for acceptance.

Dealing with an apparatus essentially pneumatic, as is the middle ear, we naturally make most use of pneumatic massage for the desired mobilization; yet, just as the best efforts of the masseur upon stiffened joints elsewhere in the body are of slight avail in some cases until more radical surgical measures have broken up real or pseudo-anchylosis, so in the minuter field of the tympanum ruder means must at times have first employment. Cutting procedures should be resorted to only when the blunt force of probe and hook have failed; for the divided bands too often reunite into a worse hindrance than before. But the cotton-tipped probe can often do much to mobilize stiffened parts and rub

in alterative ointments or solutions; and cases of long-standing post-suppurative deafness which had been abandoned by capable men as hopeless have years later been restored to a useful degree of hearing by gently vigorous massage of this sort. Lucae has obtained very good results with his spring-probe; but it is questionable how far its spring increases the efficiency in gentle hands or mitigates the rudeness of the clumsy. Usually painful, even after anesthesia has been attempted by ice or cocain, it can yet be borne by many patients, and will at times initiate an improvement which is unexpectedly marked as well as gratifying to the patient.

The various measures of pneumatic massage are likely to have the greatest vogue, however, both because of their gentleness, their wide range of applicability and their diagnostic value. Siegle's otoscope is the best, as it was also one of the first of these; although the dramatic value of electric or compressed-air manipulation will always appeal to some classes of patients and tempt the aurist who "must be up to date." Few modifications of the original apparatus have been for the better, except the substitution of a rubber bulb for the mouth-piece and lung power. Not only does this subserve convenience if the instrument is to be used by more than one person or in suppurative cases, but it materially increases its power, as is not infrequently desirable. A normal drumhead can bear a pressure of some fifteen pounds per square inch on either of its surfaces, and while this should rarely, if ever, be approximated in the practice of pneumatic massage, which has pathologic membranes to deal with, we may often need and use to advantage double the three or four pounds of negative or positive pressure which is the uttermost that the mouth can furnish. Siegle's fundamental principle, in which he advanced beyond his predecessors, must be adhered to—the variations of pressure should in almost all cases be made only in plain view; the massage must be made through an "otoscope"—and harm can then result from vigorous measures only in the most careless hands.

Injection of the manubrial plexus and other vascular areas must generally be induced by massage which is energetic enough to have any real efficacy; but this will usually be lost as quickly as it was evoked. The fear that is sometimes expressed that such injection will prove harmful by reason of exudation of leucocytes and increased sclerotic changes, is largely fanciful; such exudation need no more occur than extravasation. Either may readily absorb should it be produced, not only leaving behind no injurious trace, but really proving beneficial, by securing simultaneous absorption of previous exudates. All massage would fall under the same ban; but the oculist sees daily that corneal opacities can be best absorbed by massage with a stimulating ointment which shall cause not only marked injection, but actual new formation of vessels, thanks to which he secures absorption and replacing with better materials of the hasty repair-work which Nature had perpetrated. This is not so visible in other fields, but we know that it does take place; and the blood-count made after the general massage seance tells of a systemic plethora promptly induced, which is a large element of its usefulness.

It must be remembered, however, that in our aural massage the visible movements and injection of the drumhead are wholly secondary in importance to those induced upon the inner side of the tympanum. Much of the value of the procedure is in its mobilization of the stapes and to a less extent of the round-window membrane. Sometimes good motion of the malleus is obtained without improvement as to hearing or tinnitus, possibly because of laxity of the malleo-incudal or incudo-stapedial ligaments beyond the degree which Helmholtz pointed out as normal; but more often it is on account of anchylotic bands about the niches of the fenestra. At times such non-success is due to lack of air within the tympanum; for we must not forget that while we may speak of "sucking out the drumhead," in fact we merely permit the expansion of the air within by reducing the outside pressure. Tympanic inflation *per tubam* is therefore an absolute prerequisite in some cases, even some of those in which the slightest overdoing of inflation may be deleterious by concussion of a nervous apparatus already damaged by disease.

Besides the mechanical effect, then, of inflation and massage in mobilization, both measures can do good service through that very congestion which has been deprecated. The sclerotic tissues can at times be softened and stretched only after slight congestive exudation; and the cupping effect of the massage is no unmixed evil. It is a sharp-edged tool, not to be trifled with; but most surgeons ought to be able to trust themselves with keen instruments, if, indeed, such known potency for evil is not one of the surest incentives to safe and successful use. Measures supposedly harmless are usually but half-understood and perfunctorily used, and "didn't know it was loaded" applies to many things besides fire-arms. The blunt curette in removing cerumen and the forceps groping after foreign bodies are responsible for more injuries to the canal and deeper parts, with occasionally fatal results, than we ever like to believe. So we should study well during the massage, after it is finished, and at the next examination, with close inquiry as to the symptoms in the interval, if we are to know what we are doing for good or evil, and rightly to employ the massage for the benefit of the patient and the credit of ourselves and the profession.

As to the instrument, the original Siegle's otoscope has been little improved upon. It can be made of metal, with reduction of bulk and weight, and the speculum can advantageously be given the oval lumen, which best accords with the form of the canal—points which are well exemplified in Burnett's form of the instrument. The glass which closes the speculum externally may be plane or convex—the latter giving a valuably magnified image, but a proportionately reduced illumination. This matter of reduced light is cardinal and constitutes the great difficulty for beginners in using the instrument, especially if they are not accustomed to looking through the sight-hole of the brow-mirror. Much light is necessarily reflected from the glass, which is obliquely set so that this may not return to the observer's eye. Yet, many persist in staring at the reflection of the brow-mirror and so, not looking in the axis of the speculum, can see nothing else but its wall, instead of through into the ear. Of the light which does penetrate, only a fraction is reflected back from the fundus, and of this a further considerable portion is reflected internally, allowing but a small fraction to reach the eye. If the glass is convex, all of these losses are exaggerated and the resultant image, if enlarged two diameters, has but one-fourth the strength of illumination of the unmagnified view. Hence, there is need of precise adjustment of the light to secure the best possible illumination of the fundus before the

speculum is introduced and of so holding the ear that one hand shall suffice for straightening and opening the canal and holding the speculum air-tight in place, while the other hand is free, first to manipulate the the brow-mirror and make sure of the fullest lighting, and then to exercise through the bulb the precise suction and pressure desired. As with all other specula, the otoscope should be placed in the straightened canal and the ear drawn out over it as the speculum is pressed in.

Thus employed, the otoscope enables the physician to see exactly what he is doing, noting the response of the malleus-handle as well as of each part of the drum-head, flaccid or tense, to the variations of pressure. These can be made of any desired character by means of a good bulb, their frequency changing from twenty or thirty to three hundred to the minute, their amplitude equally diverse, while the pressure can be all positive or all negative, or alternations of each, with a maximum of nearly fifteen pounds in either direction, were such ever desired. No syringe or other form of "rarefacteur" can give more vigorous action nor allow such perfect control. The claim made for certain forms of massage-instrument that they *alone* can give some definite suction or pressure is wholly specious—any passable form of the apparatus can give a fair degree of either. It is urged as to some electric or other appliances that they give a definite rhythm not obtainable by hand-power; this is in a measure true and constitutes one of the advantages of the simpler apparatus, since such regularity of vibration is an element of decided danger, as is recognized in a hundred directions. Numerous devices embodying this rhythmic vibration have been proved seriously destructive of the vitality of nerves and other tissues—the electrically-moved tuning-fork will render cataractous the lenses of small animals kept near it—the electric plugger has been abandoned because it killed the dental pulp—and almost every form of "phono-massage" has proved damaging to the cases which at first seemed benefited by its employment. The faulty rhythm of the hand-masseur is therefore decidedly in its favor, and no mechanical device can compare in efficient control with the skilled hand guided by the intelligent eye. It has been shrewdly asked, whether this or that exploited apparatus was "as efficient under the table as on top"; certainly, the mental impression on the patient (surely not on the physician also) is no small part of the supposed potency of some of the "latest patterns."

Massage without ocular control is permissible only when the effect of the procedure has been well studied through the otoscope, and it has been proved harmless for the ear in question. Then, it may be given into the hands of the patient for frequent home-use as a valuable adjuvant to the more potent measures. For such employment there is some risk, however, in most of the "masseurs," such as that of Delstanche, as their cupping effect may be much over-done. "Finger-tip massage" can be used with hardly a possibility of mischief, the means is always at hand without cost, and it can be used inconspicuously anywhere at just the time when the need for it is felt. Hommel's "tragus-presse" can afford but little of the suction which is most useful to the depressed conducting apparatus; whereas the deeply-inserted finger can be withdrawn enough to notably rarefy the air and give the same alternations of suction and pressure which are most efficient under the otoscope. The hollowed palm placed over the auricle can in like manner exercise vigorous pneumatic massage. Other massage about the ear has been employed, most valuably that behind the ramus, which can slightly affect the deep-lying Eustachian tube; but it seems for this purpose inferior in value to vigorous gargling.

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PERNICIOUS ANEMIA.

REPORT OF THE PROGRESS OF CASES PRESENTED TO THE ASSOCIATION IN 1900, AND REPORT OF A CASE WITH DIFFUSE SPINAL CORD LESIONS AND POST-MORTEM FINDINGS.*

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CHICAGO.

(Concluded from page 488.)

CASE 29.—This is an important and most instructive case, and is reported in detail with the postmortem findings, including a microscopic examination of the different tissues of the body.

Mrs. V. J.; aged 39; married; mother of four children; came to the Presbyterian Hospital, Chicago, on July 26, 1900. Her father is living, and has had stomach trouble a good deal of his life. Her mother died of paralysis. A maternal aunt died of cancer. There is one brother and seven sisters, all living and in good health. The patient has been obliged to work hard all her life, and has not been in good health since the birth of her last child. Two of her children are living and two are dead. One was still-born. The patient had typhoid fever when she was young, and suffered from malarial fever, as it was told her, two years ago. Her present illness began after the birth of her last child, seven years ago. There was indigestion, with gaseous eructations, acidity, fullness, and weight in the epigastrium after eating. Occasionally there was vomiting, but the vomiting had no relation to the meals. She never vomited blood. On several occasions she vomited bile after repeated attacks of vomiting. The appetite has been variable on the whole, but has been often good. There was diarrhea with watery stools containing undigested food for the first six years of her illness.

A years ago she commenced "christian science" treatment, and after six months the diarrhea ceased and she became much better. Recently there has been much irritation of the bladder, with a desire to urinate frequently. There has been a sense of pressure about the rectum, and at times some pain, especially if the bowels were constipated. There has been some difficulty in getting the bowels to move because of a sense of numbness in the rectum in the last few weeks. Menstruation ceased four months ago; the flow was scant for a month or two preceding the cessation. Her strength and endurance have been gradually lost. She was overworked during most of the illness, but her legs became finally so weak that she was obliged to remain in bed on and after December, 1899. She and her friends noticed that she was paler than usual, and that the skin had a yellowish tinge. This has increased since she has been in bed. She has noticed that her legs have become much weaker since she went to bed, and that she has not complete control of the bladder. The bowels have usually been constipated and required a laxative or the injection of water into the bowel to move them.

* Read at the meeting of the Association of American Physicians, at Washington, D. C., April 29, 1901.

An examination showed a woman fairly well nourished; the skin was very pale and of a distinct yellowish tint. The mucous membranes of the lips and mouth were pale. The tongue was indented and furred. There were no carious teeth; the lungs were negative. The heart area was normal. There was a soft systolic blow in the mitral and pulmonic areas. The radial pulse was about 100 per minute, and was small and soft. There was diastasis of the recti abdominalis muscles. The belly was "pot-form." There was very palpable visceroptosis, including the liver, kidneys, spleen, intestines and stomach. The uterus was retroverted and moderately fixed. Some pain was caused by an attempt to restore it to the normal position. The body of the uterus was small, and a small nodule was felt in its posterior surface. The rectum was normal; the eye grounds were normal. The patient had abrasions of the skin over the sacrum, and lay partly upon the side with the thighs and legs flexed. There was some atrophy of the muscles of the lower extremities, chiefly of the extensor groups. The knee-jerk was increased. There was a slight ankle clonus, more marked in the left than in the right foot. Babinsky's sign was present in the right, but not in the left. Sensation was diminished in the lower extremities, most marked in the feet and legs, and almost normal in the thighs. The muscular sense was noticeably absent. The patient could perceive pain, and in certain areas of the leg could distinguish heat from cold, but in others heat was felt as pain and cold was felt as touch only. There was a small area in the left inguinal region and upon the outer surface of the right thigh, where tactile sense was diminished and heat was felt as pain. There was noticeable loss of power in the legs and thighs, which was more marked in the right than in the left. There was loss of power in the rectum and bladder. The muscular power and the sensation of the skin in the upper extremities seemed normal. She complained of a sense of constriction about the abdomen, beginning at the waist-line. The urine, with a specific gravity of 1012, was acid in reaction; no albumin nor sugar present, and was microscopically negative. The blood examination showed hemoglobin , 20 per cent., red cells, 610,000, and white cells, 3200 per cubic millimeter. Poikilocytosis was very marked, and nucleated red cells, with megaloblasts predominating, were found. (See Chart No 5.)

The patient remained in the hospital from that time until the date of her death on Feb. 27, 1901. During that time many blood examinations were made, as indicated in the accompanying chart, which showed two waves of improvement while under observation, and the death of the patient occurred during the last wave of improvement. The blood findings were all characteristic in every way of pernicious anemia. The interesting point in the case is the spinal cord involvement, which consisted of a paraparesis, noted at the time of admission, and which gradually increased up to the time of her death. There was finally complete paralysis of the bladder, and in consequence, an infection which extended to the kidney, and the patient died of septicemia dependent upon a pyelonephrosis. This was possibly aggravated by extensive bed-sores, which increased in extent and depth in spite of the greatest care.

The stomach contents were examined after test meals on several occasions, and hydrochloric acid was found absent in every instance. The stools were examined and found negative as to parasites. The urine, after the infection of the bladder, became alkaline, and contained considerable pus and many bacteria. The character of the bacterial infection was not discovered. During the greater part of the illness the temperature of the patient ran an irregular course of either a remittent or intermittent type, but it was never severe in degree. The pulse was usually rapid and small, and there was always a complaint of great weakness and of breathlessness upon exertion. The nourishment of the patient remained good throughout the whole illness. Her appetite was usually good, and although digestion

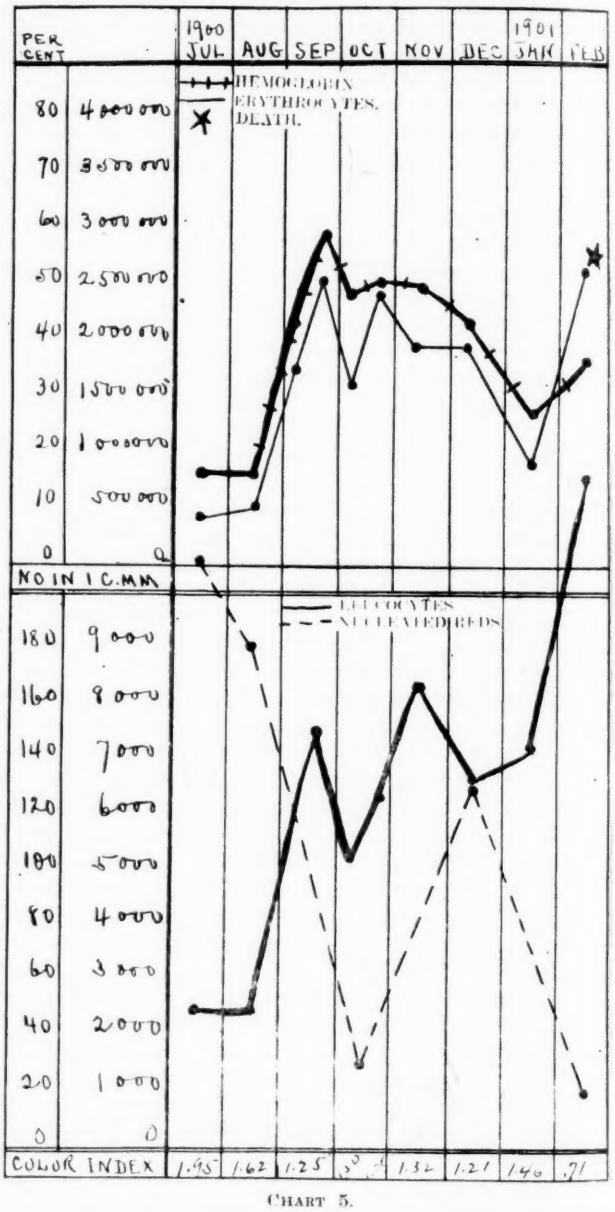

CHART 5.

was not perfect, assimilation of her food occurred. About the middle of January, 1901, the infection of the bladder and of the kidneys occurred, and from that time the patient suffered from an intermittent and remittent type of fever of severe degree, and at times was delirious, apparently from the fever. Five days before death the temperature fell below normal and remained so until death, and for two days preceding that occurrence it registered from 93 to 94 F. in the rectum. The pulse and respiration fell with the temperature, and the patient died with a very low tempera-

ture, slow pulse and slow respiration. At the time of death the blood findings indicated a wave of improvement, and just at death there was a terminal leucocytosis.

The postmortem examination was made by Professor Hektoen, at the Presbyterian Hospital, on Feb. 27, 1901, when the following diagnosis was made: General anemia; red marrow in femur; splenic hyperplasia; degeneration of posterior columns of spinal cord; ascending cysto-uretero-pyelonephritis, with necrosis of the medullary papillæ; broncho-pneumonia; fatty liver; thrombosis, with softening of the inferior vena cava and continuation to the left in the renal vein; sclerosis of aorta; chronic pelvic peritonitis; with tubo-ovarian adhesions; extensive sacral decubitus, and edema of feet.

The body, which is still warm, is that of a rather middle-aged, poorly-nourished woman. There is no rigor mortis, and no posterior lividity. There are huge bed-sores with great undermining of the skin over the sacrum, exposing the coccyx and lower part of the sacrum and the left trochanter. The limbs are fixed, the knees somewhat flexed and the feet, especially the left one, slightly edematous. The sclerotic coats, especially that of the left eye, show traces of recent hemorrhage.

The abdominal cavity is empty, and peritoneum smooth. The pleural cavities are empty and smooth. The mucous membrane of the gums is intact. The tongue, in its anterior roof, shows branching fissures; its mucous membrane, as well as that of the pharynx, esophagus, larynx and trachea, is normal. Peribronchial glands are normal. The lungs are pinkish externally and but little pigmented; they are soft, spongy and crepitant. The cut surface is pinkish and bloodless. In the lower lobe of the right lung there are several areas of recent lobular consolidation, from which a thin, purulent fluid can be expressed. In this lobe the bronchi also contain muco-pus. In the upper lobe there are one or two small black, subpleural concrements. The heart weighs 250 grams. There is considerable amount of subepicardial fat. The cavities are somewhat dilated and contain a small amount of fluid blood; their walls are thin and flabby; the myocardium is normal. In the left ventricle there is an aberrant tendinous cord, which crosses the cavity in the lower half. There is no evidence of fatty degeneration in the myocardium. The beginning of the pulmonary artery is smooth. The right shows several yellowish areas, the largest one being in its descending portion. There is an obliterating thrombus of the inferior vena cava, beginning opposite the fourth lumbar vertebra and extending downward to the iliac veins and the right side into the femoral vein and its branches almost to the knee. The thrombus in the left iliac vein is red, in places grayish, with extensive puruloid softening.

The spleen weighs 350 grams; its external surface is smooth and of a slaty color; the capsule does not wrinkle. The cut surface is of true reddish-gray color; its consistence is quite firm; its connective tissue being visibly increased. The Malpighian bodies are not visible except in a few places.

The liver weighs 1800 grams. There are a few perihepatic adhesions binding it to the diaphragm. It is yellowish in color both externally and on the cut surface. On section the peripheral parts of the lobules appear much yellower than the central portions. The bile passages are patent. The gall-bladder contains a quantity of very thick, viscid, tarry bile, and a number of small faceted calculi.

The pancreas is normal in size and appears normal on its cut surface.

The stomach is small and contracted; its mucous membrane was not examined. The stomach was filled with formalin for histologic purposes. The mucous membrane of the small intestine is intact, and apparently not greatly atrophic; that of the large intestine and rectum is normal. The vermiform appendix is also normal.

The kidneys are enlarged, weighing together 520 grams. Their external surfaces, particularly that of the right, show roughening of the capsule, with yellowish spots, some of them purulent. The pelvis of each is filled with turbid, thick pus, in which there are many necrotic masses. The mucous membrane of the pelvis is thick and in places ulcerated and irregular. The apices of some of the medullary pyramids are distinctly necrotic, being capped by a yellowish, rather firmly adherent eschar. In some places this has fallen off, leaving ulcers. The calices appear dilated and lines of suppuration extend upward into the medullary pyramids and into the cortex. In the pelvis of the left kidney there is a firm, yellowish, adherent thrombus in the branches of the renal vein. The ureters are thickened and somewhat dilated; their mucous membrane is roughened and covered with pus. The urinary bladder is contracted and its walls thicker than normal. Its cavity contains a small quantity of turbid fluid. The mucosa is roughened and in places is diffusely red and hemorrhagic.

The right ovary and tube are small and shrunken and embedded in adhesions. There are adhesions about the left ovary and tube, among which there is quite a large collection of serous fluid. The uterus is about normal in size. Its mucous membrane is smooth. There is a bilateral, old cervical tear. The vagina is normal.

The skull and membranes of the brain are normal. There is an excess of cerebrospinal fluid; in the lower part of the spinal cord there are numerous minute, bony, white scales in the meshes of the pia arachnoid. The cord is about uniform in consistency throughout. On cut section there is distinct degeneration in the posterior internal columns. In the lower part of the cord this degenerated area becomes wider and more irregular.

The marrow of the left femur is deeply red throughout and quite cellular. Smears contain megaloblasts, normoblasts, etc.

Histologic examination was made by Mr. Robinson, in the laboratory of Prof. Ludvig Hektoen, and by Dr. J. F. Smith, of the House Staff of the Presbyterian Hospital.

Lungs.—Sections from the more solid portions of the lungs show marked degeneration; quite extensive destruction of the alveolar walls, with the alveolar spaces of the large portion of them completely filled by disintegrating leucocytes and a serous transudation. In the remaining part the consolidation is much less complete. The alveoli are occupied and the character of the material within them somewhat different, the serous portion being much more abundant and the leucocytes fewer in number. A considerable amount of blood can be seen along the lines of the broken alveolar walls in the denser portions of the sections. The smaller capillary vessels are also highly congested, and the larger vessels, whose walls show evidence of degenera-

tion in their granular and fragmentary appearance, are distended with serous material.

Heart.—The muscular fibers under high power of the microscope present a peculiar appearance. Along the margins the protoplasm appears normal, with its transverse striations distinctly visible, while the central portion in many places is pale and degenerated and shows no transverse striations. This gives to the fibers somewhat the appearance of a separation into two longitudinal divisions. Many of the fibers show a longitudinal splitting into fine threads. The nuclei stain well, but the protoplasm throughout shows some irregularity on staining. Bands of light color cross the fibers transversely. Many of the nuclei are large and irregular.

Femoral Vein.—Sections of this vessel show the wall varying considerably in thickness in different portions, containing but a scant amount of muscular tissue. The lumen is occupied by a large mass of fibrin and disintegrated blood, the central part of which is less dense and more granular, being composed largely of degenerated cellular elements. Around the margins of the mass some evidence of proliferation of the fixed tissue cells is seen, and in a few places there are growths starting inward from the vessel wall. No bacteria can be found in sections stained by Gram's method.

Spleen.—The Malpighian bodies are very indistinct throughout the greater portion of the section, and in some places entirely invisible. The splenic tissue in all parts of the section obscured by the presence of an enormous amount of blood. The nuclei of the cells are visible, stained quite deeply, but their protoplasm is pale. The capsule of the organ is thickened and the connective tissue within is notably increased in amount, but it has a peculiar granular, disintegrated appearance, which is seen also in the walls of the vessels included within the larger trabeculæ. The blood vessels show some increase in thickness of their walls and lumens, in most instances engorged with blood. The elastic tissue fibers are much increased, as shown by Weigert's special stain.

Liver.—Sections of the liver show extensive fatty degeneration, particularly in the peripheral portion of the lobules, where the liver cells are almost entirely replaced by fat vacuoles. Only a very scanty amount of protoplasm and a few poorly stained nuclei remain. Immediately surrounding the central vein of the lobule there is, in most cases, a small area of liver tissue, almost free from fat, showing, however, evidences of degeneration by the dull color and granular character of its protoplasm and by the pale staining of the nuclei and the presence of some granular detritus in the spaces between the cell columns. The capsule of the organ is not thickened, nor is the interlobular connective tissue apparently increased in amount. The bile ducts are not proliferated. Some of them are large and have wide-open lumens. The blood-vessel walls show no particular changes; the lumens are occupied by varied amounts of true blood. Staining with ferrocyanid show small amounts of granular iron here and there in the interstitial tissues. Staining by Adami's carbol-thionin method show many diplococcus-like bodies located within and between the liver cells.

Pancreas.—Sections of this organ stain well and show no apparent abnormality more than a congestion of some of the smaller blood vessels and perhaps a slight increase in the thickness of their walls. The lobules are distinctly marked off. Numerous bodies of Langerhans of various size are present throughout the section.

Stomach.—Sections of the fundal portion of the stomach show marked thinning of its wall, particularly of its mucous and muscular layers. The glands of the mucosa are few, shallow, and atypical and the epithelial cells of their lining are very indistinctly marked off and poorly stained. Round-cell infiltration is present. The submucous layer is comparatively thick. Most of its vessels are congested. The muscular layers are thin and pale. Practically the same may be said of sections very near the middle of the lesser curvature of the organ. Muscular tissue, however, is more abundant and the thickened vessel walls in the submucosa are more evident. In sections from near the pylorus atrophic changes are not seen. Mucosa is normal in thickness and appearance, and the muscular layers, white, dense and well stained. On the inner surface and in the lumens of the more superficial glands are seen bacterial colonies.

Intestines.—The intestinal tract in its upper portion, that is, the duodenum and jejuno-ileum, shows no marked pathological change. Walls of the ileum, particularly in the region of the cecum, are rather atrophic, especially its mucous layer, which in places is reduced to a narrow band, with but slight resemblance to mucosa. There is diffuse, round-celled infiltration of the mucosa. The submucosa, in places, is congested and edematous. Numerous mast-cells are seen in the submucous layer.

Kidneys.—Sections of the kidney show marked destructive changes toward the apices of the pyramids. The surface bordering on the pelvis is composed of typical granulation tissue infiltrated by large numbers of polymorphonuclear leucocytes. There is diffuse, almost universal, edema and leucocytic infiltration of the somewhat increased interstitial tissue and congestion of the capillary and larger vessels. Throughout the section are granular necrotic areas of variable size and minute abscesses. A large proportion of the tubules in both pyramidal and cortical portions are dilated and packed with masses of polymorphonuclear leucocytes embedded in a granular debris. In many places the cells have undergone complete necrosis, involving also the lining epithelium and peritubular connective tissue. The straight tubules, even where densely packed, often have an intact epithelium with clear nuclei. In others it is flattened, degenerate, or necrotic. The glomeruli have somewhat thickened capsules and are much congested. Others yet show carious degenerative changes, not a few being entirely necrotic and granular. In some places glomeruli and tubular contents have dropped away during the handling of the sections, leaving only the thickened connective tissue framework.

Spinal cord.—Sections of the cord, stained by the Weigert-Pal method, show degenerative changes, with absence of myelin sheaths from many of the tracts; at some levels comparatively few sheaths are present in any part of the transverse section, and their absence from the postero-median and crossed pyramidal tracts is more or less complete at all of the levels examined.

It was intended to give illustrations of sections of the spinal cord at different heights, to show the site of the degenerative changes in the cord. Sections made of the medulla and pons show degeneration of certain tracts here, as well as in the cord, and it therefore seems wiser to postpone the report upon the histology of the cord until a more extended examination may be made including the entire cerebrospinal system. This will be the subject of a future report to the Association.

The changes in the spinal cord in this case are the same, apparently, as those reported by others, and consist of degeneration in the postero-median, the pyramidal, the direct cerebellar and Gower's tracts. Diffuse degeneration appears in this case in the cervical and upper dorsal cord. It seems, therefore, in this case, that while the degenerative changes are limited to certain columns in some parts of the cord, especially in the lumbar, dorsal and upper cervical, it become more diffuse, as noted above, in other portions of the cord. One of the peculiar conditions noted is the absence of shrinkage in the degenerated tracts. Possibly this may be due to the shorter course of the disease as compared with the more chronic cord lesions of locomotor ataxia, lateral sclerosis, etc.

Bacteriological examination.—Media inoculated from the heart's blood showed no gross changes, either by aerobic or anerobic methods of cultivation. No cultures were obtained from the lungs. Upon an agar slant, inoculated at the autopsy from the thrombosed femoral vein, there developed a pure culture of the bacillus coli communis. Upon agar-agar plates from the liver there appeared a number of small, white colonies, composed of small cocci which, stained by Gram's method, produced a moist, whitish growth on glycerin agar, a dirty brownish-white growth, with discoloration, on potato, no apparent change in litmus milk, no gas in glucose agar, and no liquefaction of gelatin. From the kidney were obtained cultures of small cocci which, stained by Gram's method, and in subcultures, produced growths characteristic of staphylococcus albus; also small, bluish-white colonies of small oval bacilli, which were almost completely decolorized by Gram's method of staining, produced a scanty moist growth upon the surface of glycerin agar, a brownish growth with discoloration on potato, gas in glucose agar, apparently no alkalinity on litmus milk, and a funnel-shaped liquefaction of gelatin.

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NOTES ON ANESTHETICS.

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A man can not do two things at once so skilfully as he can do either one of them by itself. A surgeon can not do his most skilful operating while devoting half his attention to the anesthetic.

A surgeon is frequently more concerned about the result of the anesthetizer's work than he is about the results of his own work.

Constant anxiety about the anesthetic divides the attention of the surgeon between what he is doing and what some one else is doing and must hinder the progress of the operation.

In many cases more skill is required to administer the anesthetic than is required to do the operation.

An operation may be practically devoid of danger; an anesthetic is never administered without jeopardizing the life of the patient.

In more than half of the cases the patient is in greater danger from the anesthetic than he is from the operation.

A good anesthetizer need not necessarily be a good surgeon; neither are all surgeons good anesthetizers.

Death from an anesthetic may occur in the hands of the most skilful anesthetizer, but in the great majority of cases in which deaths have occurred the anesthetic has been in the hands of the unskilled.

The patient should not be brought profoundly under the influence of chloroform in less than five minutes; more than ten minutes is almost never required.

In administering chloroform there is seldom a stage of excitement except the patient is addicted to the use of alcohol, tobacco or some other drug.

The skilled anesthetizer seldom, if ever, touches the globe of the patient's eye with his fingers; it is unnecessary and may do much damage.

The anesthetizer should be considered a consultant to the surgeon, rather than his assistant; it is as important that he be an expert in the giving of anesthetics as that the surgeon be an expert in operating.

The surgeon can not do any operation of consequence and administer the anesthetic too; therefore, the patient should be made to understand that at least two men are required and that they are equally entitled to pay for their services.

The anesthetizer's fee should not be contingent on the surgeon's fee any more than the consultant's is, and, like the consultant, he should send a separate bill for his services.

The anesthetizer must not forget that the anesthetic is to be given on account of the necessity for surgical operation and that the reverse is never the case; hence, the anesthetizer's position is of necessity subordinate to that of the surgeon. As a rule the anesthetizer must use the anesthetic selected by the surgeon, though when anesthetics are administered only by skilled men it is probable that a selection of the anesthetic will be left to the anesthetizer.

No man can safely administer an anesthetic and watch the operation at the same time; if a death occurs while he is so engaged he should be held guilty of criminal carelessness.

During anesthesia the patient's life is in continual and imminent danger and his safety depends not only on the skill of the anesthetizer but also on that person's constant and undivided attention. The indifferent or inattentive person has no business with anesthetics.

Clinical Report.

CASE OF TUBAL PREGNANCY.

H. W. HENDRICKSON, M.D.

MONTEVIDEO, MINN.

On April 18, 1901, at 8:45 p. m., I was summoned to attend Mrs. E. P. H., whom I found in collapse, practically pulseless and suffering agonizing pain in the abdomen, especially in the right epigastric region where a large and hard swelling could be outlined.

A diagnosis was made of tubal pregnancy, with rupture and escape of the ovum, and hemorrhage into the peritoneal cavity. The gravity of the situation was at once explained to the family, and preparations made for immediate laparotomy.

At least a gallon of clotted blood was evacuated; a 12 weeks fetus with membranes was removed, the tube ligated and its distal portion with the ovary included detached and removed. The abdominal cavity was irrigated with a normal saline solution, and the wound closed without drainage, rigid asepsis having been observed throughout. Before the operation a hypodermoclysis of 3 pints of normal salt solution was administered, and a like amount was given after the operation was completed; the sites chosen were the cellular tissue under the breasts on both sides. The pulse just before the operation and after the first dose of saline solution had been given was 150 and very feeble. At 4 a. m. next day it was 140 and stronger, and at 10 a. m. 120 and fairly good. The woman made an uninterrupted recovery, and her temperature did not at any time show a rise of more than two degrees above the normal. The effect of the saline injection was very striking, and I am quite certain that but for its timely administration this patient would not have rallied from her double shock, namely, from the hemorrhage and subsequent operation.

DR. CABANES, of Paris, has offered to install and maintain a museum of retrospective medicine at the Paris Faculté de Médecine.

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TUBERCULOSIS AND HOUSE INFECTION.

The question of house infection by tuberculosis is a rather important subject, but one that heretofore has not been extensively studied in a statistical way. There has been an abundance of proof that invalids with the disease can temporarily infect their surroundings, and that dark and ill-ventilated tenements in the slums can retain the infection to all appearances. There have, however, so far as we are aware, been but very few exhaustive comparative studies of house infection under varying conditions as to sanitation; this alone can be considered a satisfactory method of investigation of this subject. What we want to know is not merely how far and how long tuberculosis germs can retain their vitality and virulence under specially favoring conditions, but how they exist and behave under ordinary and average ones, and also in those of better than average as regards general hygienic surroundings. A paper read at the late tuberculosis congress Dr. Harold Coates[1] deals with this subject somewhat in the desirable way, though the inquiry was limited in its scope. He divided the dwellings investigated into three classes: 1, those in a dirty condition, where careless consumptives lived, who took no precautions to prevent infection; 2, very clean houses occupied by rather careless consumptives using insufficient precautions as regards sputa, etc.; and 3, dirty houses where there had been no case of tuberculosis for years. In every case the condition was noted as to air space, light, ventilation, construction of walls and freedom from dust and dampness, presence or absence of carpets, curtains, etc., and length of residence of patient and duration of illness.

Twenty-one houses of the first class were examined. In 13 of these at leastone animal was found tuberculous, and, in another, tubercle bacilli were found in the dust, making 14 out of 21, or 66 per cent., giving positive evidence of infection. In 7 houses there was no evidence that the dust was infective. In 8 of the 14 infected houses the lighting and ventilation were bad, in 1 fair, and in 5 good. In none of the 7 giving negative results was it poor or bad. Fifty-two guinea-pigs were inoculated with dust from these houses; 20 of these died shortly after being inoculated, 32 were killed four or five weeks after and 17 found to be tuberculous and 15 healthy.

1. Med. Press and Circular, Aug. 7.

Ten clean but infected houses were examined and infectious dust was found in 5. The average cubic air space in these, per individual, was 336 feet; in the other 5 it was 506 cubic feet. Of the infected houses only one had good light and ventilation, while these were good in all the non-infected houses. Ten dirty tenements without consumptive inmates were tested and in none was tuberculous dust obtained. Dust taken from the waiting-room of the out-patient department of the Manchester Hospital for Consumption, a lofty, well-lighted and ventilated hall used daily by 180 patients, was also tested, with negative result.

These results agree pretty closely with those of Cornet in Berlin, but are slightly more favorable. They point very strongly to the conclusion that the prime disinfectants for tuberculous germs are light and air, and that with free admission of these and proper care there is little danger of permanent infection of dwellings. They also demonstrate that without these, thorough cleanliness will not protect from infection from a careless expectorating consumptive. The particular danger of tuberculous houses is in the crowded districts of the cities, where light and ventilation are often apparently the last thing thought of in the construction of tenements, not only of the poor, but also those of the flat-dwelling middle class.

FUNCK'S SPORIDIUM VACCINALE.

The cause of smallpox and vaccinia has not been satisfactorily demonstrated as yet. The most recent investigations in this field are those of Funck, of Brussels, whose results have attracted considerable notice, the organisms described having been used by Gaylord, for instance, as prototypes of the protozoon of cancer that he claims to have discovered. Funck,[1] in his last article, attempts to show that he has fulfilled all the requirements necessary to prove that variola and vaccinia are caused by the same parasitic protozoon. In the first place he develops the fact that vaccine, at first usually rich in bacteria, eventually undergoes a process of self-sterilization, retaining, however, its power to produce typical vaccine pustules. Hence, he concludes that the active agent in vaccine lymph is probably not a bacterium.

This conclusion remains open to the criticism, however, that the active properties may be of bacterial origin. When lymph is examined microscopically in hanging-drop preparations mixed in bouillon certain cysts filled with spores as well as free spores are easily recognized at the bottom of the drop, whereas epithelial cells and cellular debris rise to the upper surface parts of the drop. The cysts are round or egg-shaped, 25 microns in average diameter, and the spores are from 1 to 3 microns in diameter and have ameboid movement. The cysts stain with sudan. Epithelial cells with parasitic inclusions are also seen. On account of the

1. Centralbl. f. Bakt., Abt. I, 1901, xxix, 921-940.

ease of observation and characteristic form, Funck finds it quite remarkable that these elements have not been recognized earlier and more generally. They were undoubtedly described by L. Pfeiffer in 1887 and by him referred to the sporozoa; for this reason Funck proposes the name sporidium vaccinale. In order to secure pure growths of the organisms, Funck spread sterile lymph in bouillon upon the surface of agar plates and after a time removed the cells which had risen to the surface of the drops; whereupon the cysts were fished out by means of a flattened platinum wire and mixed in broth. Inoculation of calves with this broth gave characteristic pustules and produced full immunity against ordinary vaccination. Funck claims that he thus secures the cause of vaccinia in pure form, but it is evident that he has not excluded, 1, organisms too small to be recognized, and 2, ferments and other substances that may be dissolved in the lymph and still carry the active properties. The bouillon emulsions of so-called cysts can not be regarded as the equivalent of pure cultures in the bacteriologic sense and capable of giving rise to innumerable subcultures by inoculation and multiplication. Funck found the same bodies in the pustules of variola and concludes that variola and vaccinia are both caused by sporidium vaccinale. Even from the purely morphologic standpoint it is probably rather doubtful if the bodies described by Funck are sufficiently characteristic to be regarded as other than the product of cellular degenerations and other lesions.

GLOBULICIDAL ACTION OF URINE.

Laking of red corpuscles may occur from different causes. It takes place in solutions of less concentration —hypotonic—than the blood serum, and also under the influence of certain toxic substances no matter if the concentration of the fluid medium is quite the same as the blood serum—isotonic. It has been found that under certain conditions the urine may cause the laking of blood. This may be because the urine is hypotonic, but it may also depend upon other factors.

Indeed, there may be hemolytic substances in the urine which seem to be prevented from causing hemolysis because of the hypertonicity of the urine, as Hamburger and, following him, Camus and Pagniez,[1] showed by adding a few drops of urine to non-hemolytic solutions of sodium chlorid (0.66 to 0.70 per cent.) and mixing in a few drops of blood. After an hour or two in the incubator more or less laking may take place. Camus and Pagniez show that under these circumstances normal urine is hemolytic for the corpuscles of the rabbit, the hemolytic property disappearing, however, on alkalinization.

From their experiments it would seem that hippuric acid plays an important rôle in the laking of rabbit's blood by human urine. Under pathologic conditions neutral or alkaline urine may be globulicidal, and as this power generally diminishes on heating to 55 C. for some minutes it may be dependent on the passage into the urine of certain ferments or alexins from the serum of the blood. Generally human urine, although markedly globulicidal for rabbit's blood, is without effect upon human corpuscles. Occasionally, however, human urine lakes human blood. Ascoli,[1] and Camus and Pagniez have observed such instances, and at least in some cases the laking has been due to other causes than hypotonicity. This may explain certain cases of hemoglobinuria occurring without hemoglobinemia and of urinary origin. Camus and Pagniez cite the case of a chronic nephritic whose urine had a freezing point of 0.79 C. and which showed the spectoscopic bands of oxy-hemoglobin. The blood serum did not contain hemoglobin in solution, but the urine quickly laked corpuscles from the patient's blood. In this case the urine was distinctly hemolytic and thus caused laking of the blood which entered the urine at some point or other of the urinary tract.

1. Jour. de Phys. et de Path. Gen., 1901, iii, 592-598.

GENERAL INFECTION WITH GONOCOCCUS.

Recent investigations with the aid of modern methods have shown conclusively that the gonococcus may invade the general circulation and cause an acute endocarditis, which usually assumes a malignant, destructive character. This demonstration, among many others one might cite, is an excellent illustration of the advantages that result from efforts to determine the exact nature of inflammatory and infectious processes by placing the diagnosis upon an etiologic basis. Our respect for the gonococcus and for vulgar gonorrhea has increased greatly since the pathogenic possibilities of micrococcus gonorrheæ have been shown to equal those of the most virulent of microbes. Recently, Prochaska has described additional cases of general gonococcal infection from Professor Eichhorst's clinic in Zurich.[2] In one case gonococci were demonstrated by microscopic and cultural methods in the endocardial vegetations of a young man in whom polyarthritis and acute aortic endocarditis developed soon after onset of an ordinary gonorrhea. In this case bacteriologic examination of the blood during life gave a negative result, but in two other instances of arthritis in the course of gonorrheal urethritis, both of which left the hospital greatly improved, cultures from the blood in ascites bouillon and ascites agar gave typical growths of gonococci. The use of several cubic centimeters of blood, drawn directly from the veins at the elbow and inoculated into large quantities of ascites bouillon is recommended as the surest method for obtaining positive results.

Wassermann[3] also demonstrated gonococci both morphologically and culturally in the endocardial vegetations of a fatal case of gonorrheal cystitis, prostatitis,

1. Clinica Medica, 1901, Jan. 9.
2. Virchow's Archiv, 1901, clxiv, 492-506.
3. Münch. Med. Wochenschr., 1901, No. 5.

nephritis and endocarditis. In the interests of a definite differential diagnosis upon an etiologic basis cultures from the blood should be made as indicated in all cases of gonorrhea complicated with joint inflammations and other clinical evidences of general infection. If practiced in the early stages this method will undoubtedly settle definitely the gonorrheal nature of many of the joint infections now regarded as gonococcal upon ordinary clinical evidence only.

JOURNAL OF MEDICAL RESEARCH.

The old *Journal of the Boston Society of Medical Sciences,* a high-class publication known to and duly appreciated by only a limited circle of the profession, has ceased to appear under its former too modest form, and comes out with a new title and a new dress. *The Journal of Medical Research* is a handsome octavo, well fitting the quality of the matter contained, and it will soon rank among the leading scientific medical publications of the world.

PECUNIARY VALUE OF A WOMAN'S LIFE.

Coming down to the question of a woman's relative worth in dollars and cents as compared to that of man's, the courts seem to give man the best of it. In our Medicolegal Department this week is recorded the decision of two state Supreme Courts which put a woman down as being worth but one-half as much as a man, by inference at least. It is generally accepted in all courts that a man's life is worth $5,000 at least, and this amount is usually given in a verdict for damages in case of death. But a court in Maine rendered a verdict of $3,500 in a case in which a woman's life was sacrificed, and the Supreme Court cut it down to $2,500. Likewise in New Jersey, the Supreme Court reduced a $5,000 verdict to $2,500. Hence, we presume a woman is hereafter to be considered worth $2,500, while her husband will bring twice that sum. If Mrs. Catt and her followers do not rise and indignantly protest, they certainly ought to do so.

DEATH CERTIFICATES AFTER QUACK TREATMENT.

If every death occurring under treatment by mental healers, "christian scientists," and other delusions and forms of quackery, was made a matter for a coroner's inquest and properly investigated, there would be fewer patrons of these humbugs. Too many physicians are sometimes good-natured and careless enough to give a postmortem diagnosis and death certificate in such cases, thereby directly aiding humbugs and frauds. A physician can not well refuse a call for help while life lasts, but this writing of death certificates upon the work of quacks is another matter. While such is sometimes unavoidable, there is no reason why any physician should step in and deliberately help out of his difficulties one who is not only hostile to rational medicine, but who is also in this regard a public enemy. An inquest is an unpleasant thing and trying to the feelings of an afflicted family, but if it would prevent their giving cause for it in future cases by employing Eddyites, Dowieites or quacks, it might be the greatest boon that could be conferred upon them. The matter is one in which the physician, called too late to aid the living, should consider his responsibility.

DIPLOMA MILLS.

The medical diploma green-goods men are still at work, though the notorious Armstrong and one or two others are out of the business, it is to be hoped permanently. The latest developments are the exposure of the Norton-Smith diploma mill in Jersey City and another similar one in Chicago, which dealt, however, more particularly in Divinity Doctorates, and the profitable existence of which is a scandal on the clergy, or those few of that profession who were morally and mentally weak enough to patronize it. Perhaps we might also note here some recent charges as to the dental diploma frauds, but that matter is not at present at a stage where one can speak positively as to the truth or otherwise of the allegations. As regards the New Jersey case there is little opportunity to doubt the fraudulent intent, the wording of the circulars and imitation-typewritten letters permits of no doubt. Through various correspondents and readers THE JOURNAL has been favored with samples of these, and some six weeks ago the editor called the attention of the postmaster-general to their character, which fact may have had its part in bringing about the present exposure. It is the easiest thing in the world to incorporate in some states a high-sounding, degree-giving, fraudulent concern, and these recent and earlier developments indicate that such foundations meet a felt want of a certain sort. There is scarcely any more evident fact than that quite a large proportion of mankind have an everlasting urgent hankering after handles or tail-pieces to their names, which shows itself all the way from the illicit adoption of the honorable title of Doctor down to the marriage of silly heiresses with impecunious fortune-hunting dukes, etc. Dr. Pangloss, LL. D., A. S. S., is very much to the fore, and his last degree is the fitting honorary one which should be given the patrons of these policy shops. It is a fortunate thing for the country at large that where state laws fail we have, in the postal statutes free from all constitutional limitations, a means of dealing justice in Federal courts to these impostors.

THE PHYSICAL EXAMINATION OF SCHOOL-TEACHERS.

A year ago the Chicago Board of Education, on the instigation of Dr. W. S. Christopher, a member of the Board at the time, adopted the plan of requiring all candidates for entrance to the Chicago Normal School, maintained by that Board, to pass a physical examination at the hands of a board of medical examiners, appointed and paid by the Board. As a result of one year's trial it is asserted by those who are in a position to know, that the physical improvement among the candidates is noticeable and fully bears out the claims made by those who proposed the innovation. As one of the examining physicians puts it: "It shows that in one short year the effect of the plan has been to arouse the young women to the necessity of care for their health. Knowing that this examination was coming, these girls have taken care of themselves. They have

had soup for lunch instead of a few cookies. They have not dieted, as they used to, on slate pencils and pickles." The advisability of employing as teachers only those who are in good physical condition is certainly recognized by all physicians. And this year the Board has extended the examination to graduates of the Normal School, and all others applying for certificates to teach in the Chicago schools. The teacher who is suffering, weak or afflicted with any bodily ailment that lowers the tone of the system will become nervous, peevish, irritable and impatient, in spite of all efforts to avoid it, which is the very opposite to the condition one should be in who has under her control the young and impressionable. In providing for the qualifications of women who have to assume the important work of molding the plastic minds of children, small attention has been given to the physical condition, and yet it is much more important than many of the literary qualifications that are required, especially when we consider that patience, forbearance, leniency and a cheerful disposition are so essential in a schoolroom. But the application of a physical test to all young women who desire to teach, granting certificates only to those who can pass such a test, would be a blessing to them also. Many a woman has been made a permanent physical wreck in the schoolroom, usually because physical defects existed when she entered. For the sake of the future of both the teacher and of the children let the first qualification required of the former be a healthy body.

EXAMINATION IN MEDICINE IN NEW YORK.

A few weeks ago the Regents of the University of the State of New York, who have the supervision and control of medical qualifications in that State, adopted a rule that students who had passed the entrance examinations and completed two courses of not less than nine months, each could pass their final examination in chemistry, anatomy, physiology and hygiene. Having passed this they would be given a certificate to apply on their final examination as regards these branches. This would enable them to devote themselves more fully to the other branches of their medical course for their last two years and thus better fit themselves for their final examination. This was considered to afford a decided advantage to the New York medical schools, and while one or two details were criticised, it was welcomed as a very acceptable change. The Regents, however, appear to have a doubt whether in this preliminary pass examination there might not be a possibility of lowering the grade of medical education, and, according to the press reports, they have, by a recent ruling, made it impossible for anyone under 21 to be admitted to the preliminary examination. This, it is said, will rule out one-half of the students otherwise eligible, and, according to the reports, the medical colleges in the State are about to use all their influence for the abrogation of the rule. We were not before aware of this large proportion of immaturity in the New York undergraduates, and the rule seems on the whole a very judicious one. While there are exceptions, the very youthful medical student has had too little time to acquire the preliminary education or the mental maturity to fit him for serious professional studies, and it would be well for the profession if such a rule or one closely corresponding to that made by the Regents were generally adopted. As we understand it, they have only made 21 the limit for students finishing their second year, which ought not to be a very serious hardship. Medical students in their "teens" are too often, if not as a rule, too precocious for their own good and that of others, and we trust, therefore, that the ruling will not be changed. If New York students are so largely still under age, it will do them little harm to wait.

Medical News.

ALABAMA.

Dr. John W. Barclay, Birmingham, was seriously injured in a runaway a short time ago. His arm was broken and he sustained severe contusions.

The Alabama Brice Insane Hospital, Tuscaloosa, now contains 1670 patients, 1209 of whom are white, and 461 colored. The colored patients are to be removed in a short time to the new hospital at Mount Vernon.

Want Their Own Physician.—There is prospect of trouble at the Warner coal mines of the Republic Iron and Steel Company because the men desire a physician agreeable to them, and the company is so far non-committal in this particular.

The New Hillman Hospital, Birmingham, is to be located at 20th street and Avenue F. The contract for the erection of the building was let on August 26. It is to be four stories in height, and the contract calls for its completion within four months.

CALIFORNIA.

Dr. H. Isaac Jones, San Francisco, will be absent in Europe for one year.

Dr. John G. Berneike has been elected health officer of Santa Ana, vice George W. Minter, resigned.

Dr. Curtis H. Castle, Merced, has sold his practice and will take a tour in Central America, after which he expects to practice in San Francisco.

Apply for Licenses.—Since the new law went into effect, 6725 applications to practice have been received by the State Board of Medical Examiners, only about one-third of which were made by residents of the state.

The Berkley Hospital Association has secured plans and a site, and is now ready to begin construction. The building is to cost $15,000, and will have an initial capacity of 20 beds. It is planned eventually to enlarge the building so that it will accommodate 100 patients.

DISTRICT OF COLUMBIA.

Dr. Austin M. Curtis, surgeon-in-chief of the Freedmen's Hospital, Washington, has tendered his resignation.

New Licenses.—Of the 27 applicants for license who were examined in July, all but three passed the examination of the Board of Medical Supervisors.

Casualty Hospital Report.—The annual report of this hospital shows that 173 cases were treated in its wards, 933 operations performed, and 1276 emergency cases cared for. The directors decided to equip a new room for the reception of emergency cases.

Natural Healer Fined.—A 30-year-old banana dealer was fined $50 in Washington, August 17, for practicing medicine without a license. He admitted that he was not a graduate, but claimed immunity because he charged no fee for diagnosis, and only took pay for the medicines furnished.

GEORGIA.

Dr. Olin H. Weaver, Macon, has been appointed major and surgeon in the National Guard, and assigned to the Second Georgia Infantry.

The Atlanta Society of Medicine, through its attorneys, has filed an answer to the $10,000 damage suit brought against it by Dr. Bryan. The answer sets forth that the committee of the Society "did undertake in good faith and without malice to ascertain who were illegal practitioners, and to that end

instituted a diligent search through the recognized city directories of Atlanta, through investigating signs and names upon office doors, advertisements and the like, to ascertain who were holding themselves out as practicing medicine, and when a list of the persons so holding themselves out had been obtained, the committee then, in good faith and without malice, compared these names with the names of those physicians who were registered according to law."

ILLINOIS.

Fire Loss.—Dr. E. P. Sloan, Danvers, lost his house by fire, August 20. The loss was $600, fully covered by insurance.

Evanston Hospital.—The new addition to this hospital will be completed in October. It includes a ward each for men, women and children, nurses' quarters, servants' rooms and a ward for special cases.

Lightning Interferes with Operation.—During an operation for an abdominal tumor at the Sherman Hospital, Elgin, the operator, assistants and nurses were surrounded by falling glass. Lightning struck the cupola of the building and shattered the skylight over the operating-room.

Hospital Employes' Pay Raised.—The directors of the Illinois Eastern Hospital for the Insane have adopted a scale of wages which will affect 500 employes. The initial salary for male attendants will be $25 instead of $18; for female attendants, $18 instead of $14; and attendants in charge of wards, $42 instead of $35.

Sherman Hospital Advisory Board Resigns.—The Advisory Committee of Physicans to Sherman Hospital, Elgin, composed of Drs. James A. Rutledge, William C. Bridge and Leonard S. Taylor, has resigned. This is another step in the conflict which has been precipitated by the efforts of the Elgin Woman's Club to dominate the medical staff and conduct the hospital after methods of its own devising.

Personal.—Dr. George E. Clement, Springfield, formerly assistant to Dr. George N. Kreider, has gone to Peru, Ind., as surgeon of the Wabash Hospital in that city.——Dr. P. H. McRaven has resigned as superintendent of the Cobden Hospital.——Dr. Leonard A. Robison and family, Canton, have returned from an extended eastern trip.——Dr. Frank Anthony, Sterling, is now securely convalescent and expects to resume practice this week.——Drs. J. H. Finch and Jess A. Fullenwider, Champaign, returned from an eastern trip, August 20.——Dr. Roy B. Roberts, Brooklyn, has moved to Augusta.——Dr. Henry W. Vanderhoof, Wheaton, has been appointed physician to the Du Page County Farm.——Dr. Thomas W. Keys, Leroy, returned from a trip to England, August 19.

Chicago.

The Graduate Nurses' Association of the State of Illinois, Chicago, was incorporated, August 22, by Harriett A. Fulmer, Emilie Lutz and Marie L. Cuthbertson.

Unlicensed Practitioner Indicted.—The State Board of Health has brought action against a chiropodist and magnetic healer of West Madison street, charging her with practicing medicine without a license.

Chicago Death Rate.—For the week ended August 24, the annual death rate was 15.57 per 1000. Of the 526 deaths reported 146 were from acute intestinal disease; 43 from tuberculosis, and 32 each from pneumonia and violence.

"Christian Science" vs. Typhoid.—On August 26 a young girl died from typhoid fever. She had been under the care of a regular practitioner and had improved. The doctor was accordingly dismissed and a "christian scientist" called in. The child grew worse and died while the "scientist" was reading to her. The physician who had been dismissed very properly refused to issue a death certificate and the case is now in the coroner's hands.

No New Smallpox Cases.—For the first time since January 1 no new case of smallpox was discovered last week and there are but two cases remaining in the Isolation Hospital, four having been discharged during the week. Notwithstanding the alarm concerning scarlet fever and diphtheria in certain quarters there are no new infected areas and the preventive measures being enforced are relied on to restrict further spread in the localities heretofore reported.

Personal.—Dr. and Mrs. C. St. Clair Drake left for a trip to eastern resorts, August 20.——Dr. W. X. Sudduth has returned from his summer vacation.——Health Commissioner Dr. Arthur R. Reynolds reached Chicago, from Europe, August 27.——Dr. Hugh Upton had several ribs fractured and was injured internally in a runaway accident at San Bernardino, Cal., August 25.——Dr. George Morgenthau is spending his vacation in Colorado and will return September 9.

Food Values.—It is announced that professors of Rush Medical College are planning a series of experiments to determine the effects of different foods upon the mental power of individuals. They will experiment for the most part upon students of the Chicago Hospital School, 5401 Drexel avenue, which has been recently affiliated with Rush. The students of this school, which has a large number of defective children, will be divided into classes and restricted to a particular diet for a certain length of time, until the effects can be noted.

Typhoid Investigation.—At the close of last week the investigation of 67 out of the 123 fatal cases of typhoid fever reported to the Bureau of Vital Statistics between July 1 and August 24 had been completed by the volunteer medical inspectors under the direction of Dr. John C. Neely, assistant chief medical inspector. Of these 67 cases 11 were found to have been undoubtedly contracted outside of the city, and 2 others were doubtful. This proportion agrees very closely with the results of previous investigations, to-wit, that about 18 per cent. of the fatal cases of typhoid in Chicago are contracted elsewhere and are not due to local causes. Among the remaining 54 deaths referred to typhoid fever 9 were clearly caused by other diseases and, in the opinion of the investigators, 6 others were doubtful. Including these 6, however, as among the typhoid deaths the investigators attribute the following as causes of the disease: "bathing in the lake," 2; "eating raw vegetables," 2; "drinking untreated hydrant water," 37; and for the remaining four out of the total 45 cases no cause is assigned. Dr. Neely says: "In this investigation particular attention was paid to the milk and ice supply. Three different milk dealers each furnished milk to two of the homes where deaths occurred, and one other to three of the homes. Ice was furnished to three families by two firms and to two families by another firm. So far as can be learned no connection can be established between the homes supplied with milk and ice by these firms."

Menace From Smallpox.—The July issue of the Bulletin of the Department of Health reproduces Dr. Spalding's article on smallpox which appeared in THE JOURNAL of August 3, and urges preventive measures. An increase of more than 87 per cent. in the number of smallpox cases—from 2566 to 4816—was reported to the surgeon general of the United States Marine Hospital Service, between June 28, 1901, and July 26, 1901, over the number reported during the corresponding period of 1900. Since the first of the year and up to the end of July there have been a total of 35,526 cases reported, as against a total of 15,132 cases during the corresponding period last year—an increase of 134 per cent. in this, the fourth year of an actual smallpox epidemic. Dr. Spalding's paper should set at rest any doubt as to the nature of the disease. As he points out, mild and irregular as the majority of the cases are, they still are capable of conveying to the unvaccinated typical, confluent and hemorrhagic forms of smallpox. That the disease thus far has been mild in character and the death-rate phenomenally low is no guarantee that it will so continue. In 1898 scarlet fever was endemic throughout all parts of Chicago, but the type of the disease was so mild that the scarlatina mortality of that year formed but 0.29 per cent. of the total mortality, while, for the forty-eight years, 1851-1898, inclusive, the proportion was 3.11 per cent. Towards the close of the year the type of the disease suddenly changed to one of great malignity, and during the following year, 1899, there were 533 deaths from scarlet fever, or 2.08 per cent. of the total mortality as against the 67 deaths and 0.29 per cent. of the total mortality of 1898. Epidemiology does not yet explain the causes of these changes in type; it only recognizes the fact of their occurrence. Such a change seems now impending as to smallpox. The death-rate in July, 1900, was 1.6 per cent.; during July, 1901, it has been 2.7 per cent.—an increase of nearly 69 per cent. The very mildness of the cases and the low mortality rate constitute a serious menace which should not be overlooked by the sanitarian and health authority. This menace lies in the fact that thousands of undetected cases have spread the contagion in unsuspected ways and places; that, in consequence, no disinfection or other restrictive measures have been employed; and that, therefore, there is every probability of outbreaks from undiscoverable sources in the future. The only and sufficient safeguard against this hidden danger is general vaccination. As has been before said in the Department Bulletins: "No degree of personal cleanliness or of municipal sanitation will protect the susceptible

against contracting smallpox if exposed to its contagion. The one certain and only safeguard, tested and proven by the experience of a century, is effective vaccination."

INDIANA.

Dr. **William Metz,** physician to the Wabash Railway Employes' Hospital, Peru, has been transferred to the hospital at Ashley, Ill.

Elkhart has another case of smallpox with eleven known to have been exposed to the disease at that place, and an unknown number at New Carlisle, at Three Rivers, Mich., and on trains.

The Work House Hospital.—The new hospital at the Marion County Work House, which has been erected at a cost of about $25,000, was opened August 12. The male department will accommodate 8, and the female department, 5 patients.

Mortality in Indiana.—The monthly reports to the State Board of Health show that there were 3162 deaths in the state in July, equivalent to an annual death-rate of 14.8 per 1000. For the corresponding month of 1900 the number of deaths was 2255, a rate of 10.4 per 1000. The number of deaths under one year of age was 698, or 22.9 per cent. of the total number. From one to five inclusive, there were 307 deaths, which is 10.1 per cent. of the total, and of those who were 65 and over, there were 680 deaths, or 22.3 per cent. of the total. The urban deaths numbered 1259—an annual rate of 17.5 per 1000. The rural deaths numbered 1903, a rate of 13.4. Important causes of death were—tuberculosis, 382; typhoid fever, 77; diphtheria, 14; scarlet fever, 5; pneumonia, 53; diarrheal diseases under five years of age, 454; measles, 11; whooping cough, 15. Of the diarrheal diseases 105 were from dysentery.

IOWA.

Dr. **James C. Davies,** Emmetsburg, has sold his residence and practice to Dr. Horace W. Burnard of Chicago.

New Practitioners.—The State Board of Medical Examiners granted certificates, on August 16, to 64 of the applicants recently examined.

Neglect to Report Smallpox.—City Physician Nicholas J. Schlitz of Des Moines has filed charges with the State Board of Health that Dr. Frank O. Broady had neglected to report to the city board of health two or three cases of smallpox, and has asked that his certificate to practice be revoked. Dr. Broady insists that the symptoms of smallpox were wanting in these cases.

Osteopathic Litigation.—The S. S. Still college of osteopathy of Des Moines has filed in the federal court for the eastern district of Missouri a suit against an organization known as the Associated Colleges of Osteopathy, composed of the American School of Osteopathy at Kirksville, Mo., Bolle's Institute of Osteopathy of Colorado, Boston Institute of Osteopathy of Massachusetts, Northern Institute of Osteopathy of Minnesota, the Philadelphia School of Osteopathy of Pennsylvania and the Southern School of Osteopathy of Kentucky, demanding reinstatement in the association and $5,000 from each of the defendants, who, it claims, at the annual meeting at Kirksville, on July 5, illegally ousted it from membership.

KANSAS.

Registration.—Up to the first of August about 2000 of the estimated 3000 physicians of Kansas had registered. The time for registration of physicians with diplomas expires September 1.

From the Far East.—A Chinese physician of Leavenworth has presented for the inspection of the State Board of Medical Examiners a Chinese diploma, and demands a certificate to practice. Atchison is to have a Japanese physician, a graduate of Illinois Medical College.

The Department of Medicine of the University of Kansas, at Lawrence, has been admitted to membership in the Association of American Medical Colleges, and its course has been approved by the Illinois State Board of Health. The curriculum includes the studies of the first two years at medical colleges and the certificate of the university will admit the student to the third year in any medical college in the Association.

MARYLAND.

Change in Computing Death Rate.—The Health Department has recently made an important change in the method of computing the death-rate. Hereafter the calculations will be based on an estimated population of 518,000, viz., 439,000 white, and 79,000 colored, instead of 541,000. The annual death-rate on this basis for the week ended August 17, was 21.88, and for the following week, 20.38.

Personal.—Dr. W. H. Smith of the University of Maryland staff is at Queenstown.—Dr. Edward A. Schutz has returned from a trip to the Holy Land and Germany.—Dr. John Turner has returned from Nova Scotia.—Assistant Health Commissioner Jones has returned from New York.—Dr. William Lee Howard is cruising in his new yacht along the shores of the Azores.—Dr. Robert P. Winterode, pathologist at the Maryland Hospital for the Insane, Spring Grove, is ill at the Johns Hopkins Hospital with typhoid fever.—Dr. Joseph C. A. Wunder is at St. Joseph's Hospital with appendicitis.—Dr. T. J. Ward has returned from the Pacific Coast.—Dr. Ferdinand Groshans has gone to Buffalo.—Dr. A. Douglas McConachie left for Buffalo and Canada.—Dr. T. L. Richardson has gone to Buffalo and Canada.—Dr. James Bosley, health commissioner, is at Cape May.—Dr. J. W. C. Cuddy is at Atlantic City and will go to the Buffalo Exposition before returning.

Typhoid in Baltimore.—Of the 36 cities of the United States with 100,000 or more population Baltimore ranks thirty-first in point of health, according to census figures. The health officials attribute much of the typhoid fever to the unfiltered water and call for a filtration plant as an essential to health. The water board on the other hand says that it is unnecessary; that every case of typhoid is closely watched by the inspectors, the drainage of the house changed if necessary and every precaution taken to prevent the drainage from going into the lake. To show that the water is not polluted the following analysis by the chemists is published: Color, yellowish, turbid; odor, none; reaction, neutral; total residue at 230 F., 98; volatile residue, 28; ignited residue, 70; amount of chlorin, 2.74; amount of nitrogen as free ammonia, .024; amount of nitrogen as albumin and ammonia, .128; amount of nitrogen as nitrates, .96; character of water, good; nitrates, none. The Health Department will have elaborate examinations of the water made.

MINNESOTA.

Dr. **Frank E. Bissell,** Litchfield, succeeds Dr. O. S. Pine as surgeon at the Soldiers' Home, September 1.

St. Paul Hospitals.—St. Paul now has four well-equipped hospitals. A fifth, the Norwegian Hospital, will be opened October 1, and within a year a German Lutheran Hospital and a hospital built and operated by prominent physicians for private patients only, will be ready to receive patients.

Less Smallpox.—Smallpox in the state has decreased about 40 per cent. The number of new cases reported since August 1 is 126, against 239 for the two previous weeks. But one death occurred. The largest number of cases reported was in Washington County. Oneka township, where the State Board of Health has intervened to enforce quarantine, has 24 out of a total of 26 cases; Stillwater has the other two.

NEW JERSEY.

Newark School Inspection.—The Newark Board of Health and Board of Education, at a joint meeting, have decided to employ 12 physicians as public school inspectors at a salary of about $250, to make daily inspections of the schools and school children of the city.

Trenton Hospital Scandal.—An investigation into the charge of murder of a patient at the State Hospital for the Insane by attendants, and of inhuman and brutal treatment of other patients by attendants, is being conducted under the personal supervision of Governor Voorhees.

Medical Library in Trenton.—In the interests of the medical department which the physicians of Trenton desire to add to the public library, Dr. Charles Perry Fisher, librarian of the College of Physicians, Philadelphia, delivered a lecture to the medical profession of Trenton, August 22.

Doctor's Bill a Preferred Claim.—Whether a physician's bill should be a preferred claim against an estate has been decided in Camden by Judge Armstrong when he made an order entering Dr. E. L. B. Godfrey's bill of $349 against the estate of Caroline Cooper as one to be preferred above others in the settlement of the estate.

NEW YORK.

The remains of Dr. James Stoughton, U. S. Navy, who was drowned in Chinese waters last year, were interred, August 20, at the Albany Rural Cemetery.

The new hospital at Fort Ontario, Oswego, was accepted by Major Martin, of the army, August 15, and the keys turned

over to the hospital steward, who occupies the second floor as his residence.

Smallpox on Excursion Boat.—The discovery of a case of smallpox on an excursion boat between Oswego and Alexandria Bay, August 25, created a panic on board. The patient on his return to Oswego was isolated at the Oswego Hospital.

Two State Societies to Meet.—The New York State Medical Association will meet at the Academy of Medicine, New York City, under the presidency of Dr. John A. Wyeth, October 21 to 24, inclusive. The Medical Society of the State of New York will convene in New York City, the week previous.

Buffalo.

The medical department of the University of Buffalo will begin the session of 1901-02, Monday, September 30.

Epidemic Typhoid.—The Niagara Falls *Gazette* makes the statement that typhoid fever is epidemic in that city. It is attributed to contamination of water from Buffalo sewage.

The Emergency Hospital at Eagle and Pine streets is rapidly nearing completion and will be ready for occupancy October 1. The new building will contain accommodation for 100 patients.

The Fresh Air Mission has already sent 715 children to Cradle Beach this summer for a fortnight, and another party of 70 or 80 has again been sent. The season will close one week earlier than usual because of lack of funds.

Col. Charles R. Greenleaf, assistant surgeon-general, will represent the Superior Board of Health of the Philippine Islands at the annual meeting of the American Public Health Association to be held in Buffalo, September 16 to 20.

Chloroform Death.—A case of death from chloroform anesthesia has occurred at the Buffalo General Hospital. The patient, a man 34 years old, went to the hospital for the purpose of having a slight growth removed from his arm, and died under narcosis.

Gowanda Quarantine Raised.—Health Commissioner Wende has returned from Gowanda after raising the quarantine against smallpox with which some of the Polish factory workers were afflicted. There were seven cases, but every one was vaccinated and the danger is now past.

New York City.

Gift to French Hospital.—Robert Lebaudy, of France, has subscribed $10,000 to the building fund for the hospital the French Benevolent Association is to build in West Thirty-fourth street.

Abatement of Nuisance.—The health authorities of New York City have informed the New York Central Railway that the nuisance found to exist in the tunnel running out from the Grand Central Station must be abated or drastic action would be taken. The principal sources of complaint are insufficient lighting and ventilating facilities in portions of the tunnel.

Sick Children's Mission.—Sick children from the tenements of New York to the number of 2500 have already received medical service from the Sick Children's Mission of the Children's Aid Society since the opening of the season, June 15. This compares favorably with 1157 such patients attended by the same organization during the entire season last year. To fully 20 per cent. of the 2500 cases aided by the mission nourishing foods as well as medicines have been supplied.

Oil Treatment of Mosquitoes.—Dr. Doty has completed the work of treating the chain of stagnant ponds near the quarantine station on Staten Island with oil for mosquitoes, and is highly pleased with the result so far achieved. Millions of dead mosquitoes were found in the pond treated with oil. Many other millions which were just in a state of becoming mosquitoes were also found dead. The work has been successful past expectations.

OHIO.

Card Index of Deaths.—The sanitary policeman of Youngstown is making a card index of all deaths in the city for the last ten years—about 7000 in all.

Dr. Michael A. Albi, Cleveland, who was compelled to sue the parents of a patient, who died after an operation for appendicitis for the amount of his bill, has been awarded a judgment of $75.

Spitting Ordinance to be Enforced.—Dr. Clark W. Davis, Health Officer of Cincinnati, announces that he is about to start a campaign against the violators of the ordinance prohibiting spitting in street cars and public conveyances.

Charity Physicians of Columbus.—The director and superintendent of the Health Department of Columbus have awarded the contracts for poor physicians in the various wards of the city to the nineteen lowest bidders, whose bids vary from $48 to $440.

Typhoid at Hiram.—Secretary Probst, of the State Board of Health, has returned to Columbus, from Hiram, where he investigated an epidemic of typhoid fever. There were 40 cases. The epidemic is attributed to the water from the well on the Hiram college campus.

Personal.—Dr. H. C. Rutter, Gallipolis, has gone to Columbus, where he will resume practice.——Dr. William Pritchard, Cincinnati, has been appointed second assistant physician at the Columbus State Hospital.——Dr. Ernest Scott, Columbus, is going abroad for study.——Dr. Allan Brankamp, Cincinnati, is expected to return from Europe, September 15.——Dr. George A. Gorsuch, and Dr. and Mrs. C. Melvin Harpster, Toledo, sailed for Europe, August 24, on the *Maasdam*.——Dr. George W. Moorehouse succeeded James S. Knowles as superintendent of the Lakeside Hospital, Cleveland, August 17.

TENNESSEE.

Dr. James A. Albright, Nashville, secretary of the State Board of Health, has gone to his old home in North Carolina on a visit and will go to Washington before his return.

No Spitting in Nashville.—The inspectors of the Nashville Board of Health have been instructed by Dr. Larkin Smith, City Health Officer, to strictly enforce the law against expectoration in public conveyances and public buildings, and to arrest offenders.

Personal.—Dr. James F. Roper, Harris, has sold his practice to Dr. R. V. Dukes, of Laurel, Miss., and will move to Union City.——The office of city health officer of Chattanooga expired by limitation, August 19.——Dr. William H. Poindexter, Bells, has been elected a member of the local board of health.

School Children Must Be Vaccinated.—The Board of Health of Memphis, on August 15, adopted a resolution declaring compulsory vaccination of all children in the city a prerequisite to their attending the various schools, public and private. Dr. Hasse, secretary of the board, stated in explanation that certificates previously given will be satisfactory and that no certificate will be demanded where a satisfactory vaccination scar can be shown.

WASHINGTON.

Scarlet fever, in mild form, is increasing at Walla Walla. In the last five days of July, 11 new cases were reported.

Dr. George W. Libby, Spokane, a member of the Board of Plumbing Examiners, has resigned in favor of a representative of the journeymen plumbers.

Changes of Location.—Dr. Francis J. Ledbrook, of Lakefield, Minn., has located in Moscow.——Dr. Alexander Smith, Oakesdale, has moved to Vineland.

Walla Walla Hospital.—During the eighteen months since the opening of this institution, 371 cases have been treated, 201 of which were surgical and 170 medical. There have been 84 gynecological cases and 33 case of typhoid fever.

WISCONSIN.

Typhoid in Baraboo.—It is reported that more than 2 per cent. of the population of this town are ill with typhoid fever.

New Licensees.—Of the applicants who took the recent examination by the State Board of Medical Examiners, 28 passed and have received licenses to practice in Wisconsin.

Unregistered.—It is reported that 125 of the 400 physicians of Milwaukee have failed to comply with the law requiring them to file their certificates with the county clerk before March 30, 1900.

Personal.—Dr. Edgar J. Orvis, Oakfield, who disappeared August 3, has been heard from. He writes Dr. J. W. Burns from New York intimating that he would never return.——Dr. Anton B. Opicka, Wonewoc, has been arrested, charged with practicing medicine without a license.——Dr. Frederick Deutschberger, Milwaukee, possessor of many certificates, but no diploma, plead guilty of practicing without a license and was fined $50 and costs.——Dr. Oscar E. Lademann, Milwaukee, has returned from a 3-years' course of study in Berlin and Vienna.

Smallpox Epidemic Threatened.—Dr. Uranus O. B. Wingate, Milwaukee, secretary of the State Board of Health, declared on August 20 that Wisconsin and all states of the middle West would be swept by a scourge of malignant smallpox unless prompt and early action were taken against the disease. He proposes to locate the disease by getting a list of the infected camps. He will then ask all lumber contractors to make vaccination a condition to employment among the men. Detention hospitals will be erected and instead of allowing those who have the disease to go at will among the settlers, they will be confined until cured. As the matter now stands, as soon as a man is known to have smallpox he is discharged, and immediately goes out of the woods into the settlements. Then, in order to get to the very hiding places of the disease, the infected camps must be destroyed, and further damage from that quarter prevented.

GENERAL.

Honolulu News.—Queen's Hospital is to receive an appropriation from the legislature of $1666 monthly.——The leper examining board, as reconstituted, consists of Drs. Sloggett, Cooper, Moore, Meyers, Sinclair and McDonald.

Mosquito-Infected Nurse Dies.—Miss Clara Maas, a nurse at Havana, formerly of New Jersey, allowed herself to be bitten by two infected mosquitoes and died, August 24, seven days afterwards of yellow fever. She desired to become immune. This gives three deaths out of six experimental cases during this month at Havana.

Mental Healers Give Bonds.—Helen Wilmans, 70 years old, founder of a "Mental Science Association," with her husband and son-in-law, were arraigned in the United States Court at Jacksonville, Fla., and gave bonds in the sum of $5000 each. The postoffice authorities state that they have sufficient evidence to convict them.

Medico-Military Journal.—The Association of Military Surgeons of the United States is about to publish a journal instead of issuing an annual volume of transactions. The contracts for its publication have already been made, and the first number of the journal will appear shortly. The editor-in-charge is Captain James E. Pilcher, assistant surgeon, U. S. Army, retired, under the supervision of a governing board.

Dr. A. P. Ohlmacher has been appointed professor of pathology in the Northwestern University Medical School (Chicago Medical College). Dr. Ohlmacher is director of the pathological laboratory of the Ohio Hospital for Epileptics at Gallipolis, where he has done excellent practical work, particularly on the morbid anatomy of epilepsy. Previous to going to Gallipolis he was professor of comparative anatomy and embryology at the College of Physicians and Surgeons, Chicago; later professor of pathology in the Chicago Policlinic, and from 1894 to 1898 professor of pathology in the Cleveland College of Physicians and Surgeons. He will retain his position at Gallipolis for the present.

Braithwaite's Retrospect Discontinued.—The 73d volume of *Braithwaite's Retrospect*, just received, contains the announcement that this historic semi-annual journal is to be discontinued, that the last volume has been issued. For over sixty years *Braithwaite's Retrospect* has been a mirror of all that was new, of value in medicine, and was the precursor of the modern year-book. As the editor says in the announcement of the discontinuance, medical journals now provide regularly, abstracts and summaries of medical literature from all parts, with the consequence that they each contain a retrospect of that which is new in medicine which was formerly only to be had in more special publications. While the *Retrospect* has, in some respects, outlived its usefulness, its career has been one in which its founder was justly proud, and there will be a pang of regret among many of the older members of the profession, both in this country and in England, at the thought that it will appear no more.

CANADA.

Many cases of smallpox are reported from a small village near the capital, Ottawa. In an area of five miles, there are some 35 cases. Ten families are suffering from the infection up to the present date.

The **McGill medical faculty** has postponed the sessional opening this year until October 1, instead of September 13, as formerly. This is on account of the many alterations now proceeding. Every effort is being put forth to have the library, the faculty rooms and the new laboratories completed before the expected visit of the Duke of York.

Dr. **Thomas Page**, Brockville, Ont., was killed at Cornwall on the night of the 21st inst., by being run over by a train. While stepping on the train he missed his footing and fell under the wheels. One leg was cut off, while the other was badly crushed. He was removed to the Cornwall General Hospital, where he died the following morning.

Personals.—Dr. Joseph Prendergast, Chicago, is visiting friends in Toronto.——Dr. Aristide Blais, Berthier, who returned a few weeks ago from two years' study in Paris, has been spending a few days in Montreal, on his way to Alberta, N. W. T., where he intends to take up practice.——Dr. Aldege Ethier, formerly house physician at the Notre Dame Hospital, Montreal, has returned from Glasgow, where he went some months ago. He will spend some days in Montreal, and then go to Paris, Ont., to take a position in St. Michael's Hospital.

Montreal General Hospital.—At the quarterly meeting of the Board of Governors held during the week, Dr. F. J. Shepherd opposed the scheme for charging 5 to 10 cents for medicine to outdoor patients. Since the charge was instituted, there has been a great falling off in the outdoor patients. At the next meeting Dr. Shepherd will move to have the charge removed. During the past quarter 783 patients were treated to a conclusion. Of these 56 died, 25 of them within three days of admission. The charge for medicine made during June and July produced $186.20. The number of patients at the outdoor department during these two months was 4220, as against 6081 in 1900.

The Health of Ontario.—The nineteenth annual report of the provincial Board of Health of Ontario for the year 1900 has just been issued. In addition to the regular report of the secretary, it contains special reports on the outbreaks of disease, etc. The laboratory work during the year shows that 1669 specimens were examined as follows: Sputum, in cases suspected of tuberculosis, 703; exudate, in cases suspected of diphtheria, 526; blood, in cases suspected of typhoid fever, 221; water for bacteriologic examination, 194, and water for chemical examination, 33. Of 480 tuberculosis specimens sent, 170 showed the bacilli of tuberculosis, 79 being from males and 91 from females, the great preponderance of positive cases being between the ages of 20 and 30 years. Of 526 cases suspected of diphtheria, 247 showed the bacilli. In 221 specimens examined for typhoid, 54 gave a positive result.

"Christian Scientist" Arrested.—The father of a boy who recently died in Toronto from diphtheria while under "silent treatment" has been placed under arrest pending an investigation. As an evidence of a strong growing sentiment against this cult, the verdict returned by the coroner's jury is interesting: "That the said boy came to his death on Tuesday, August 13, at the home of his parents, from diphtheria, and we find the father of the deceased showed culpable criminal negligence in not providing medical assistance, nursing and comforts, and that ——, the 'christian science' demonstrator, was an accessory after the fact, inasmuch as he undertook to advise and treat a dangerous and contagious disease, which he admitted he was totally ignorant of. The teaching of the sect known as the 'christian scientists,' as brought out in the evidence, is a danger to the community, and the jury would recommend that the law should make it a criminal offense for a demonstrator of this peculiar sect to attend or treat a case which is not being attended by a duly qualified practitioner."

FOREIGN.

Staff Surgeon-General Coler, of the German army, died recently at Berlin.

Tribute to Hansen.—A bust of Dr. G. H. A. Hansen, the discoverer of the leprosy bacillus, was unveiled on August 10, at Bergen, Norway.

French Congress of Urology.—The fifth reunion of the urologists of France and other countries will be held at Paris, October 24 to 26, with Guyon in the chair. Movable kidney is the chief subject appointed for discussion. The general secretary is E. Desnos, 31 rue de Rome, Paris.

Egyptian Medical Congress.—The profession in Egypt is organizing a medical congress to convene at Cairo, December 10 to 14, 1902. It will be under the patronage of the Khedive, and the first great gathering of scientific men in an Oriental country. Cholera, bubonic plague and dysentery will, it is expected, receive due consideration. Dr. Voronoff is secretary-general in charge of the arrangements.

LONDON LETTER.

Complimentary Dinner to Surgeon-General Jameson.

A complimentary dinner has been given to the Director-General, at which Sir William Church, president of the Royal College of Physicians, presided, and which was attended by a large number of the most eminent medical men in London, in-

cluding Sir William MacCormac, president of the College of Surgeons, Sir Lauder Brunton, Dr. Conan Doyle (the well-known novelist), and Sir Frederic Treves. The chairman said they had met to do honor to one who deserved well of his country and of his profession. He was placed somewhat in the position of having to make bricks without straw. The present war was unique in its difficulties. Never before had so many men left our shores for so great a distance. But he met all the requirements which were placed upon him. Surgeon-General Jameson said in reply that when the army in South Africa was first doubled and then trebled a great strain was placed on his department. Soon invalids began to be received from Africa in thousands. Up to the present 50,000 had been received. Not one of these was transferred to a civil hospital. The reserve of the Corps was first called out; then, they enlisted and trained men as fast as they could. Every man that could be spared was recalled from the Colonies. Then, they tapped the militia and volunteer medical staffs. For a considerable time before the war broke out the Director-General and his staff urged upon the government the necessity of increasing the Medical Corps, but for the most part without avail. The department had sent to Africa 4000 tons of medicine and material, and had mobilized 151 staff and regimental units, 19 bearer companies, 28 field hospitals, 5 stationary hospitals, and 16 general hospitals. They had fitted out in this country 2 hospital ships and 3 hospital trains. At the present time there were 21,000 beds in South Africa, not counting field hospitals. Fault had been found with his department for not having made sufficient sanitary arrangements in the field, and this in face of the fact that the post of sanitary officer had been abolished against the advice of the Department. The officers of the Medical Corps, after superhuman efforts, were exposed to criticism and an inquiry such as had not been applied to any other branch of the army and exposed to blame which others should have borne. The sympathy which had been denied to them by others and which found expression in the presence of those at the dinner would be all the more esteemed and valued. Sir William MacCormac said that it was impossible to say too much in admiration of how Surgeon-General Jameson had met every requirement, and it seemed to him passing strange that the government had allowed him to leave the army without the customary recognition given to all his predecessors and without one word of thanks.

Koch's Paper on the Prevention of Tuberculosis.

Koch's recent view that human and bovine tuberculosis are distinct diseases and that the latter is not a source of danger to man, has been widely criticised in the lay as well as the medical press, and has received no support whatever. At the last council meeting of the Royal Agricultural Society, Lord Spencer, speaking on the report of the veterinary committee to carry out experiments on the subject, expressed the hope that the provisions in force for the prevention of the conveyance of tuberculosis from animals to man would not be relaxed while the matter was still in doubt. The most important criticism of Dr. Koch's arguments which has appeared since the Congress is a letter addressed to the *Lancet*, by Dr. Copeman, of the Local Government Board, who is well known for his experiments on variola and vaccinia. He points out that while Koch says that the animals which "had eaten bacilli of bovine tuberculosis had without exception tuberculous infiltration of the greatly enlarged lymphatic glands of the neck and mesenteric glands and extensive tuberculosis of the lungs and spleen," yet no mention is made of tuberculous lesions of the intestine. This omission is all the more remarkable as Koch, in giving reasons for his conclusion that bovine tuberculosis can not be conveyed to man by ingestion of milk or butter containing "living and virulent bacilli," says that it is only "when the intestine suffers" that a case of tuberculosis can be assumed with certainty to have been "caused by alimenta." It will be remembered that the great rarity with which tuberculosis of the intestine is found in necropsies at children's hospitals in cases of tuberculosis was one of Koch's arguments against the origin of the disease from ingesta. Lord Lister, in replying to Koch at the Congress, pointed out that if primary intestinal tuberculosis were rare in children mesenteric tuberculosis was common, and said that the interpretation seemed to him to be that the bacilli passed through the intestinal mucous membrane without causing any obvious lesion and were arrested in the glands. Unless Koch made an important omission in his paper this is exactly what he claims to have taken place when he fed cattle with bacilli from bovine tuberculosis; yet without any reason he implicitly denies its possibility in man.

Correspondence.

Impressions of the London Tuberculosis Congress and the Black Forest Sanatoria for Consumptives.

WATCH HILL, R. I., Aug. 23, 1901.

To the Editor:—This gathering of medical men was the largest and most complete ever assembled for a special purpose. As I sat on the platform during the opening meeting, when the different nations, through their designated delegates, were introduced, I knew that it had never been my good fortune, in all the medical conventions I have attended, to look upon such a distinguished body of men. When the 2000 members were present they filled completely the body of Queen's Hall, where the general sessions were held. Of this assemblage of men I should judge nearly one-half were from outside of England. America, France and Germany especially had good representations. It was indeed an honor to be a member of it, and to take part in such a Congress.

It would seem that the Londoners purposed to outdo all previous medical gatherings in social features, and I congratulate them on their success. The Englishman is at home and the prince of hosts when dining is the order of the day.

A dinner was given by Sir James Blyth, on Monday, to the Duke of Cambridge, who presided at the opening meeting of the Congress. There were present the Earl of Derby, the Lord Mayor of London, and distinguished members of the nobility, of the foreign and local medical profession, to the number of sixty. There was the "At Home at Apsley House" Tuesday afternoon on the invitation of the Duchess of Wellington, who, with her husband, gracefully received us in that stately mansion filled with the costly rewards and war relics of their ancester, "the Duke." The pleasure of attending the Baron de Rothschild's reception in their princely house, I feel, was also, with the two functions previously named, afforded me through the kind attention of my good friend and host, Dr. C. Theodore Williams. Then there was the general reception of the members and delegates on the opening night in Queen's Hall, Langham Place, by the Presidents of the Council of the Congress and the executive officers, a magnificent affair; on Tuesday evening, the reception at the Mansion House, by the Lord Mayor and Lady Mayoress in all their gorgeous official robes, and on Friday night the grand banquet given to the officers and foreign delegates of the Congress. This was not all, but enough has been mentioned to show how well socially the visitors from abroad were looked after.

THE MUSEUM.

A very important feature of the Congress on Tuberculosis was the Museum designed to illustrate the bacteriology and pathology of tuberculosis. It was a wonderful exposition of the subject and the student was aided by a most admirable catalogue. It was gotten up without regard to expense, and was the finest collection it has been my good fortune to see.

The latest methods of preparation of pathological specimens gave fine illustrations of all the possible manifestations of tuberculosis. Especially attractive were the beautiful series illustrating the localization of tuberculosis in the bronchial and mediastinal glands, in some cases of enormous size. These and other like specimens seemed to show in a striking way the important agency of the glandular system in this disease.

In the bacteriological department were remarkable illustrations, through the cultures on exhibition, of all kinds of tuberculosis. There was the 435th culture (in five tubes) of Koch's original discovery of the bacillus tuberculosis, first isolated by him on Aug. 15, 1881. These cultures had been carried down through these twenty years and kept continually growing from the original seed. There were three very interesting test-tube cultures, first showing the normal state of the germ for comparison, second a sub-culture made after exposure to liquid air for 42 days without contact, third a sub-culture after similar exposure with contact—all showing that the bacillus grows as vigorously as ever after exposure for 42 days to 186 degrees F. below zero.

THE CONGRESS A SUCCESS, YET DISAPPOINTING.

As a means of the education of medical men, as an effort preliminary to definite conclusions which must be reached at another time, and as an opportunity for earnest workers, in this special field, to get together from nearly all over the world to compare notes and personally learn from each other their different views, the Congress was a marked success. But as to any definite conclusions reached, it was disappointing. The cut-and-dried resolutions proposed and voted on, without any open discussion, at the last general meeting were commonplace compromises, which probably fairly represented the collective knowledge of tuberculosis possessed by the Council proposing them.

EXAGGERATED IMPORTANCE GIVEN TO MINOR THINGS.

Exaggerated importance and much time was given to the "spitting nuisance," the agency of ladies' long dresses in carrying and disseminating the germs, and to the theory of infection generally in preference to any other hygienic means of prevention, which, to my way of thinking, offer more hope for the extermination of tuberculosis than any agency simply preventing infection.

KOCH'S ADDRESS.

To Professor Koch, more than to any other man must be given the credit of capturing the interest of the Congress by the remarkable stand he took as to the non-infectibility of man by bovine tuberculosis. At Sir James Blyth's dinner, on Monday evening, Dr. Williams came to me and said: "Do you know there is a devil of a rumpus brewing about what Koch is going to say in his address to-morrow? They are getting awfully worked up about it and they won't stand it, and he will be called down." It was a memorable meeting at which Koch read his paper. The interest was intense. To look upon that sea of intelligent faces and to note the excitement and the restrained applause, was an experience one has but once in a lifetime. They cheered the presentation of his views, though the great majority doubted his conclusions. But when Lord Lister, who was that day in the chair, called in question the positive statement Koch had made and said, "It is a serious matter if the conclusions be wrong," the applause was the heartiest of any time that day. And when he asked if it was indeed "established beyond a doubt that tuberculosis is always air-borne," I for one, thought he was getting nearer the kernel of the question than had anyone else. Professor Nocard followed and cited instances where veterinary surgeons had become inoculated by accident with animal tuberculosis. Professor Bang of Copenhagen followed and said, "Koch went too far in saying that there was no necessity for taking measures against bovine tuberculosis." And finally, Professor Sims Woodhead, while complimenting Professor Koch, referred to a specimen in the Museum of the Congress which proved that it was possible for human beings to be infected with tuberculous disease from animals.

One is inclined to ask, is this obstinate conservatism a possible cloak for ignorance of the real cause of tuberculosis? It is as difficult for a typical English doctor to change his settled opinion on a medical subject as it would be for the English tradesman to deal in decimal money instead of their more troublesome and inconvenient six-pences, shillings and crowns. Just think of the dilemma into which they are being driven! Here we have Koch fastening upon his tubercle bacillus limitations which will be in opposition to the idea that the germ sufficiently explains the disease. Avian tuberculosis is supposedly different from the bovine variety, and the latter not transmissible to human beings, and human tuberculosis not infective in animals(?). Here we have Brouardel, of Paris, in a splendid all-round address, "knocking out" the idea of heredity (except of a possible susceptibility to tuberculosis), and Knopf and many others showing that a healthy human being is non-infective to the germ; and Williams showing the splendid results of climatic treatment in proportion as the advantages of practical outdoor living are afforded; and James F. Allen, of Natal, South Africa, explaining the immunity from tuberculosis in his section 3000 to 6000 feet above sea level of three different classes of people, namely the Indians, the English and the Zulu tribes, on the ground that their life is essentially, and in fact, a life out of doors. Then, again, comes Harold Coates, of Manchester, and A. Ransome, of Bournemouth, and others also, showing how bad housing, aggregation and deficient lighting and deficient ventilation foster and produce the disease. Where, then, does the germ come in? Does it not all show (Koch's contention especially included), that to get at the prime cause of tuberculosis we must, as I stated in my own address, go back of the germ to some common predisposing cause which will explain the frequent occurrence of this disease in birds and animals as well as in man? My belief is, that that common cause is deficient ventilation; that the air once used is thereafter not only unsuited to sustain life healthfully, but positively injurious until it has been revitalized by practically outdoor conditions: And that the penalty of the air's devitalization is finally tuberculosis. There is an electrical condition of the air, which is not yet fully understood, but upon which its power of vitalizing and sustaining living plants and beings depends. When our education comprehends this fact we will come nearer the prevention of tuberculosis than we have ever been before.

Sanatoria in the Black Forest.

A very interesting part of my sojourn abroad was the visit to the Black Forest in Germany and the inspection of the Sanatoria for consumptives there, after the adjournment of the Congress on Tuberculosis. Hohenhonnef Sanatorium on the right bank of the River Rhine is a beautiful place situated on rising ground say 100 or 200 feet above the river and flanked on three sides with woods through which wind several miles of graded walks. Here the patients lead a lazy life, most of the time reclining in open-air sheds. They live well. Wine at meals is the rule with many, and five meals a day the custom of most. The place seemed rather damp to one used to Colorado dryness and sunshine, but the 90 or more inmates of this Sanatorium seemed to be contented and doing well. Dr. Feige, the assistant physician, was very kind to me. Together we drove to the top of a mountain near by, where, from the ruins of Drachenfels, is obtained a fine view of the Rhine from Cologne to Coblenz.

Wiesbaden, the great watering place of this part of Germany, reached after a pleasant day's steaming up the Rhine, is a lovely spot. This town illustrates what can be made out of such a simple, natural advantage as an ordinary hot saline spring, of which there are many not yet half appreciated in our own country.

Another day's ride to Frankfort and thence to Colberg brings one to the Falkenstein Sanatorium. This Sanatorium differed not much from that at Hohenhonnef, either in its capacity for receiving patients or the prevalent wooded and damp surroundings, and likewise seemed to offer no unique or original form of treatment.

On my return at Colberg, I fell in with Rev. Mr. Oakes, of the Consumptive Home at Denver, who was on a similar investigating mission, and we had a delightful trip together up through the Black Forest. The railway opened out into frequent stretches of fine farm country, extending up the sides of the hills sometimes to the very summit. We arrived at Cologne late at night, and took train again in the early morning for Offenburg, and transferred thence to Beberack Zell. That morning's ride up the valley to Beberack Zell was very delightful, as every turn of the railroad gave a new and pleasant view, among them the castle of Baroness Hirsh (noted for her philanthropy among the Jews), beautifully covering the whole summit of a small, round hill. From Beberack Zell, where our carriage met us, we followed up an 8-foot wide brook some ten miles, until it became about a foot wide, and there found Dr. Walther's (Detweiller's) Sanatorium. The ride up the valley was delightful. We passed thatched Swiss cottages, where the cows occupy the ground floor, the family the second, and the hayloft the roof space. Here little hamlets crowd close upon the narrow roadway, along which every half mile or so is a shrine, perhaps lately contributed to by some devout worshiper with a sprig of oats or a bunch of flowers. Dr. Walther's main house has windows, but they are all taken out this time of year. The transoms are

large and the outlook in the right directions to catch the best summer exposure. There is individualization, as there should be, for each patient, but no special crowding of food as there is at some institutions, simply three good meals a day, and graduated exercise by walking according to each one's ability and condition. He scouted at the use of antiseptics, saying soap and water were good enough to clean up a room with after a patient had died in it. We could not help reasoning that if he had the dryness, sunshine and altitude which we get east of the Rocky Mountains, he would have the best place in the world in which to treat consumption. But then, if he had these, he would not have his heavy foliage and grassy hillsides and the nearness to the people he would serve. Of course, devoting his attention to only 45 patients, all he can accommodate at one time, he is very successful.

The next institution we visited was Dr. Hettinger's, farther down in the same valley. It is a compromise between Dr. Walther's and the first two mentioned. But it is a clean, airy, well-lighted and well-cuisined sanatorium, which, because of its similarity in many respects to his own "Home," in Denver, much delighted the esthetic mind of Mr. Oakes. We could not help noticing the double windows, and I learned that sometimes in winter the storms are so severe that these are deemed necessary. I had heard of the double windows generally used by the Swiss, to which Dr. Tucker Wise attributes the frequent occurrence of tuberculosis in that otherwise healthy country.

Well, they are all coming around to the same belief that we physicians in Colorado have been preaching these many years, namely, pure air and an active outdoor life in that climate where it can be had the easiest and most comfortably.

Yours respectfully, CHARLES DENISON, M.D.

Vivisection—A Reply to Dr. Keen.

TOLEDO, OHIO, Aug. 21, 1901.

To the Editor:—I have read the communication of Dr. Keen, published in your issue of August 10, and already applications have been made by members of the medical profession for literature concerning the subject of the controversy—human vivisection.

As the American Humane Association considers this matter one of vital importance, its executive committee has, after amendment and revision, just printed that Review of Dr. Keen's letter upon which he, in his last communication, comments; and in order to do him justice, the Association has added his first letter, which he has called "The Misstatements of Antivivisectionists." These two documents in one pamphlet can be secured gratis by any physician in the United States who will send his professional card to "The Special Committee," Postoffice Box 215, Providence, R. I. For those medical men who carefully read this pamphlet, it would seem to me that Dr. Keen's latest letter will need no reply.

If your space would permit, there could be pointed out in this document some very serious misquotations, leading him to misstatements and comments which ordinarily would be without excuse. I prefer, however, to join with his many friends in speeding Dr. Keen in his journey around the world, and wishing him a pleasant voyage and a safe return; to leave his misconceptions and mistakes to his own sober judgment, and the rectification that time will surely bring.

This Association can have no quarrel with the medical profession. It believes, rather, that in condemning and opposing the use of human beings, chiefly women and children, for experiments dangerous to life and health, it has the sympathy of the great majority of the physicians of the United States.

Nothing can so surely and utterly destroy all confidence in the personnel of the medical profession, and in the security of our hospitals and asylums, as a well-founded impression that every patient, young or old, strong or feeble, high or low, rich or poor, is not absolutely secure in all of his personal rights.

He who, in the pretended interests of science, consciously aids in the destruction of this confidence or security is, in my judgment, little less than an enemy of his race.

Yours most truly, JAMES M. BROWN,
President American Humane Association.

[We shall be glad to see the publication of Dr. Keen's letters in full with the Humane Association's pamphlets. We have no fear of the judgment of any unbiased individual who is fully informed on the subject, and think that any such one who reads Dr. Keen's replies, as well as the publications referred to by our correspondent, will be able to form his own opinion. Knowing as we do the erroneous character of some of the statements in the Humane Association's pamphlet, some of them based on misapprehensions patent to any well-read physician, it seems to us that Dr. Keen's letter can have no reply. If there is an impression abroad that the rights of the hospital and asylum patients are not regarded by the medical profession in this country, it is due to sensation-mongering newspapers and to misstatements, whether wilful or not we do not care to say, of such publications as those that called out Dr. Keen's replies.—EDITOR.]

Book Notices.

LECTURES ON NASAL OBSTRUCTION. By A. Marmaduke Sheild, M.B. (Camb.), F.R.C.S. (Eng.), Surgeon to St. George's Hospital, London. With 1 Colored Plate and 27 Illustrations in the Text. Cloth. Pp. 106. Price, $1.50. Philadelphia: P. Blakiston's Son & Co. 1901.

This little work is intended primarily for the student and general practitioner. The author is conservative in operative treatment, particularly with regard to septal spurs; he prefers, however, the galvanocautery in hypertrophic rhinitis and seldom uses an acid. The origin of nasal polypi is attributed in most instances to irritation of the mucous membrane by a concomitant bone necrosis.

A PRACTICAL TREATISE ON GENITO-URINARY AND VENEREAL DISEASES AND SYPHILIS. By Robert W. Taylor, A.M., M.D., Clinical Professor of Venereal Diseases at the College of Physicians and Surgeons, New York. Second Edition, thoroughly Revised. With 138 Illustrations and 27 Plates in Colors and Monotones. Cloth. Pp. 722. Price, $5.00. New York and Philadelphia: Lea Brothers & Co. 1900.

This is not a mere aggregation, but a discriminating digest of the latest knowledge of the subject and there is no chapter in the work from which the reader may not learn something new. It is a most satisfactory text-book, and is modern in every particular. It is most comprehensive in its scope, sound and practical in its teachings, and we predict for it a wider circulation than the first edition enjoyed, and in time an urgent demand for a third edition.

THE TREATMENT OF FRACTURES. By W. L. Estes, A.M., M.D., Director and Physician and Surgeon-in-Chief of St. Luke's Hospital, South Bethlehem, Pa. Cloth. Pp. 216. Price, $2.00. New York: International Journal of Surgery Co.

This work of 216 pages is a publication in book form of a series of papers by the author which appeared in the *International Journal of Surgery*. No attempt is made to discuss in a complete manner the entire subject of fractures, and much, therefore, which pertains to the pathologic side of the subject has been omitted. The work is essentially one on treatment, and this phase of the question is handled in an eminently practical manner by one who has had a considerable experience in the management of these acute accidents.

The aim of the author has evidently been to the practical rather than to the scientific, and he has limited himself almost entirely to a description of his own methods.

DISEASES OF THE ANUS AND RECTUM. By D. H. Goodsall, F.R.C.S. (Eng.), Senior Surgeon (late house surgeon) to St. Mark's Hospital for Fistula and Other Diseases of the Rectum, and W. Ernest Miles, F.R.C.S. (Eng.), Surgeon (out-patients) to the Gordon Hospital for Diseases of the Rectum. In Two Parts (Illustrated). Part I. Cloth. Pp. 311. Price, $2.50. London, New York and Bombay: Longmans, Green & Co. 1900.

Part I deals with the anatomy, general diagnosis, abscess, fistula, fissure and hemorrhoids. The subjects are, in general, very well handled. In the treatment of hemorrhoids preference is given to the operation by ligature to the exclusion of

all other methods. While this is the best method in the majority of cases, there are other methods which certainly are of use in special cases, and in a work of this character these methods deserve more attention than to be dismissed as useless by a three-line notice. The illustrations, which are quite numerous, are very good, most of them being reproductions of photographs.

With Part II, which is in preparation, the work will be quite complete and worthy of careful reading.

SURGICAL APPLIED ANATOMY. By Sir Frederick Treves, K.C.V.O., C.B., F.R.C.S., Sergeant Surgeon to H. M. the King. New Edition, Revised by the Author. With the Assistance of Arthur Keith, M.D., F.R.C.S., Lecturer on and Senior Demonstrator of Anatomy at the London Hospital. Illustrated with 80 Engravings. Cloth. Pp. 571. Price, $2.00. Philadelphia: Lea Brothers & Co.

This edition has been revised throughout, certain sections have been rewritten and much new matter added; it is well up to date. The usefulness of the work can be questioned by no one; it is a more attractive presentation of the most important facts of anatomy, especially in their practical bearings. It is, therefore, a convenient reference book and a valuable suggester of much information that is not always easily brought out, so to speak, from the dusty pigeon-holes of the memory. Sir Frederick Treves, as one of the first of British surgeons, is especially competent to furnish such a work, and this latest revision will be of value to practitioners as well as students preparing for their examinations. The illustrations, while not very numerous, have been considerably increased in this edition, and are specially serviceable and well selected.

THE DIAGNOSTICS OF INTERNAL MEDICINE. A Clinical Treatise on the Recognized Principles of Medical Diagnosis, Prepared for the Use of Students and Practitioners of Medicine. By Glentworth Reeve Butler, A.M., M.D., Chief of the Second Medical Division, Methodist Episcopal Hospital. With 5 Colored Plates and 246 Illustrations and Charts in the Text. Cloth. Pp. 1059. Price, $6.00. New York: D. Appleton & Co. 1901.

Works on diagnosis are comparatively numerous at the present time, but each new one has its special features of interest and value. The present volume, while less complete in its scope than some, covers the greater portion of the field of internal medicine in a very satisfactory way and undoubtedly will be found by many more acceptable than other works. It is particularly strong in its illustrations; these are generally very well selected to illustrate the text, which itself is clear and readable. The arrangement of the work is also one that will possibly find favor with many readers, especially students and general practitioners, much the larger part being given to the "Evidences of Disease" or general symptomatology and this is followed by a shorter section on special diagnosis, differential and direct. The treatment of the special subjects in this department is less elaborate than in some other works, but the main points appear to be generally well stated. There seems to be an omission in the absence of descriptions of the usual urinary and other tests. While mental disorders are left out, it would not have been amiss to have included some notice of a condition like paresis, which has a more or less definite pathology and is often confused in its early stages with certain other nervous disorders. Syphilis of the nervous system might have also received fuller treatment.

Taking the work as a whole it may be said to meet most of the requirements of a work on the diagnosis of non-surgical diseases and to possess special merits in some particulars, more especially in its first section. It is well worth a place in the physician's library.

UTERINE TUMORS: Their Pathology and Treatment. By W. Roger Williams, Fellow of the Royal College of Surgeons. Cloth. Pp. 359. Price, $3.00 net. New York: William Wood & Co. 1901.

This monograph opens up with a brief description of the development of the uterus and its anatomic relations. Uterine myomata are then considered in an exhaustive manner. The histology of the uterus in relation to its neoplastic pathogeny, the influence of aberrant elements, "rests," developmental irregularities, gross malformations, and the microbic theory are all considered under the etiology of these new growths. The author thinks that suppressed maternity and sterility "are among the most important factors in the genesis of these tumors."

Is it not more probable that the diminished fertility of these patients is due rather to the pathologic state of the uterus superinduced by the presence of the new growths? Nor does his point find support when he attempts to show the hereditary nature of these growths, for he states "myomatous patients come of large families, for those in my list averaged 8.1 members each." Concerning the etiology of carcinoma he disregards entirely the modern tendency to ascribe this to extrinsic or microbic influences, and says the "great relative proneness of the epithelium of the uterine mucosa to take on proliferative cancerous changes is due to the awakening in its constituent cells of potentialities" derived from their parent cells in the genital ridge which are akin to those which furnish the ovigerms. But such an explanation explains nothing, and will not restrain in the least the earnest search for the cause of cancer which must some day be revealed.

In the operative removal of the cancerous uterus, stress is well laid on the necessity of extending the operation to the removal of the para-uterine tissues and the lymph glands, if better permanent results are to be hoped for.

In the production of this volume the author has labored well and earnestly and given to the profession a work of value.

Miscellany.

The Consumptives Picnic Grounds.—The success of the day-resort for consumptives at Berlin has proved so encouraging that three more have been founded, two for men and two for women. They are all in easily accessible groves on the outskirts of the city and are provided with a kitchen, etc., to supply a nourishing lunch at a minimum price. They were organized by the Red Cross Society.

Success of Organized Effort in Lille.—The local medical society of Lille, France, includes the pharmacists and is called the Union Medico-Pharmaceutique. It has been victorious in a recent conflict with the local Pasteur Institute, in charge of Calmette, which had opened a dispensary where persons with tuberculosis could be diagnosed and treated. The Union claimed that the Institute had been organized for scientific research, and that it had no right to undertake practical clinical work besides.

Pensioned Patients.—The enterprise of the Sociedad de Med. e Cir. of Sao Paulo in Brazil, is evidenced by the unanimous adoption of a resolution to pension a patient whose stomach was removed fifteen months ago, in order to keep her in sight and ensure her appearance at the sessions when desired. She now eats the family diet and has increased 12 kilograms in weight. A fund was established at the same time to pension other patients with unusual affections to keep them in town.

Pregnancy and Tuberculosis.—Several obstetricians have recently published statistics in regard to the effect of pregnancy on tuberculosis, but Maragliano remarks that an obstetrician is not qualified to judge. He reiterates his well-known views on the perils of pregnancy for tuberculous women. If the disease is stationary, there is danger of arousing it, or if it is evidently progressing, even in the incipient stages of the disease, the girl must not marry, the pregnant women should be aborted, the parturient should never suckle her child. But, after several years of improvement, the question as to whether a tuberculous woman can undertake the function of maternity, is open to discussion. The physician—not the obstetrician—is the only qualified judge of the advisability of allowing a pregnancy to continue under these circumstances.

French Congress of Hypnology and Psychology.—The tenth annual congress was held at Paris in July. P. Farez described the cure of uncontrollable vomiting in a virgin of 20 and in a ii-para, 35 years of age. Both were cured by painting

the region over the stomach and esophagus with collodion colored with methylene blue. This blue collodion he considers a very important aid in psychic treatment. The intense color attracts the attention and the slight discomfort caused by the retraction of the collodion assists in the impression produced. The therapeutic suggestion is thus sustained, amplified and reinforced. Lépinay described various hysteric accidents caused in animals by emotions, scolding, electricity, castration, etc. Many animals are killed on suspicion of rabies when they are merely exhibiting transient hysteric convulsions. Manfroni related an instance of analgesia suggested to a patient while he was in a normal sleep. When he awoke he was much astonished to find that he experienced no pain from a lesion extremely painful hitherto. Bianchi delivered an address on "Cerebral Phonendoscopy," Regnault on the "Doubling of the Personality," and others described a number of cases of kleptomania, puerperal eclampsia, spasmodic contracture, etc., cured by suggestion.

Formaldehyd in Milk.

The adulteration of milk by the use of formaldehyd is probably becoming much more common than is generally suspected. For a time its use was a "trade secret," but it has been so thoroughly advertised that every obscure individual who has a milk route is now familiar with the preservative qualities of formaldehyd. In our large cities the health officers are on the watch, and hence in these its use is being curtailed, but in the smaller towns and villages the people have not this protection. It would be well, therefore, for physicians to guard against this and keep it in mind when mysterious illness develops in milk-users. They should also be prepared to make an analysis of milk at any time as to its freedom from the drug. This is a simple procedure, and yet one that requires considerable technical skill in the use of some of the tests. We copy from the *Lancet-Clinic* the various methods for testing formaldehyd as laid down by Herman Harms, some of which are quite simple:

Rimini Test.—A—Phenyl-hydrazine muriate, 0.5 gm.; distilled water, 100 c.c.; dissolve. B—Sodium nitroprussid, 0.5 gram; distilled water, 30 c.c.; dissolve. C—Soda U. S. P., 15 gm.; distilled water, 60 c.c.; dissolve. To 15 c.c. of the suspected milk in a test-tube add 10 drops of A, mix and add 3 drops of B; mix and let 5 drops of C run in slowly on the side of the test-tube. In the presence of formaldehyd a blue color is instantly produced, changing, on standing, to red. On adding to the mixture of milk and solution A 2 drops of ferric chlorid solution, and then about 2 c.c. of concentrated hydrochloric acid, a red color is produced, which later changes to orange-yellow. In sour milk the above-mentioned blue is supplanted by green. The Rimini test is easily applied, and readily detects formaldehyd when present to the extent even of 1 part in 25,000 or 30,000.

Phloroglucin Test.—Dissolve 1 gram of phloroglucin in 100 c.c. of distilled water. Put 10 c.c. of the suspected milk in a test-tube and add 5 c.c. of the phloroglucin solution; shake and add 1 c.c. of solution of potassa, U. S. P. If formaldehyd is present a red color is developed at once, fading, usually, within five or ten minutes; hence, the color must be observed at once. One part in 20,000 gives a decided reaction.

Hehner's Test.—To 15 c.c. of concentrated sulphuric acid in a test-tube add 1 or 2 drops of ferric chlorid test solution, U. S. P., and mix. Then pour upon this, in such manner as not to mix the layers, the suspected milk. A violet color indicates the presence of formaldehyd. In the case of cream, dilute the cream with an equal volume of water, and then apply the test as above described. The violet color is sometimes produced at once, but oftener not for five or ten minutes, and sometimes not for an hour or so, depending upon the amount of formaldehyd present. By this test a part in 10,000 or 15,000 is readily detected.

Liebermann Phenol Test.—In the presence of small traces of formaldehyd, distill off from the milk a few cubic centimeters and add to this one drop of very dilute aqueous phenol solution. Then pour this mixture slowly upon concentrated sulphuric acid in a test-tube solution so as to form a layer. A bright crimson color appears at the zone of contact. This is easily seen in as little as 1 part in 200,000, and in greater proportion in 1 to 100,000. There is a milky zone above the red color, and, if more concentrated, there will be a whitish or pinkish precipitate. Sometimes the zone will appear in about one hour, one-tenth of an inch below the line of contact.

Hydrochloric Test.—Fifteen or 20 c.c. of suspected milk, together with 2 or 3 c.c. of strong hydrochloric acid, are boiled for a few minutes in a test-tube. A red coloration indicates formaldehyd. Other tests are known, but they are more complicated and require apparatus or reagents not kept by the average pharmacist. The above tests are all simple in their application and afford a ready means of detecting formaldehyd in milk and cream.

Remarks on the Foregoing Tests.—The Rimini test is highly recommendable. The reaction in sweet milk appears rapidly and with certainty. Hehner's test, as well as the phloroglucin and phenol tests, are very reliable and are all extremely sensitive. The hydrochloric-acid test is very simple, but is not to be depended upon. It may show formaldehyd in most instances; however, cases have come under our observation when it has utterly failed to show the reaction, probably because of the milk having undergone some unknown changes. The Liebermann test is simple, delicate, and shows formaldehyd very readily.

As corroborative evidence, it is well, after the tests are finished, to let the suspected milk or cream stand in a warm place for 24 hours. A pure sample will invariably turn sour and separate. A sample which has been "doctored" with formaldehyd, however, will show, at the end of 24 hours, but a very slight separation, if indeed any at all, and will have but a slight odor.

A Word of Caution.—It is desirable that all test solutions be freshly prepared, especially the nitroprussid of sodium solution in the Rimini test; and that the suspected sample be as fresh as possible. Sour samples are difficult to test, and may yield variable results, because in these formaldehyd has been oxidized, and is no longer present as formaldehyd. In carrying out the tests for formaldehyd, it is advisable to work side by side the suspected sample and the one known to be pure. Finally, do not expose your tests or have your milk placed where a bottle of formaldehyd is being opened, for the vapor is very penetrating, and you may thus be easily led to misleading results. When formaldehyd has been found to be present by at least three of the aforementioned tests, it may be considered that its presence has been shown.

Married.

J. L. DUSIC, M.D., to Miss Lavina Heyner, both of Cleveland, Ohio, August 12.

WILLIAM F. BAY, M.D., to Miss Nellie H. Davis, both of Columbus, Ohio, August 15.

EPHRAIM CUTTER, M.D., New York City, to Mrs. Anna L. Davison, of Boston, August 10.

JOHN D. TODD, M.D., Trezevant, Tenn., to Miss Emma R. Hart, of McKenzie, Tenn., June 5.

MARIE MERRILL, M.D., late assistant at St. Peter (Minn.) State Hospital, to William G. Hyde, of McMillan, Mont., at St. Paul, Minn., August 8.

Deaths and Obituaries.

Thomas J. Turner, M.D., University of Pennsylvania, Philadelphia, 1851, captain and medical director, U. S. Navy, retired, a member of the American Medical Association, died at Mackinac Island, Mich., whither he had gone for his health from his home in Coldwater, Mich., August 21, aged 72. He was appointed to the navy in 1853; was fleet surgeon on the Asiatic station in 1875 and 1877; a member of the examining board at Washington thereafter; secretary of the National Board of Health during the yellow fever epidemic of 1877, and was retired in 1891.

James C. Crenshaw, M.D., University of Louisville, 1887, for several years a practitioner in Memphis, Tenn.; thereafter assistant superintendent of the Arkansas State Hospital for the Insane, Little Rock, and for the last year a practitioner of Dermott, Ark., died suddenly at his home in that place, August 16.

Thomas Masters Markoe, M.D., New York City, died August 28, at Easthampton, L. I. A longer notice will appear next week.

David Wooden, M.D., Louisville Medical College, 1885, died suddenly at his home in Grayville, Ill., August 13, from gastro-enteritis, aged 41. At the time of his death he was president of the Board of Education.

Frederick G. Flesher, M.D., University of California, San Francisco, 1893, coroner of Rice County, Minn., died at his home in Faribault, after a short illness, from meningitis, August 14.

Benjamin H. Kittrell, M.D., Tulane University, New Orleans, 1897, of Winona, Miss., who served in the Spanish-American war, died August 17 at Fourth Lake, New York.

David Magie Cory, M.D., College of Physicians and Surgeons, New York, 1866, New York City, died August 19, aged 58.

Alexander McBride, M.D., a pioneer physician of Macon County, Ill., died at his home in Decatur, August 14, aged 71.

S. T. Morehead, M.D., formerly of Allensville, Ky., died suddenly in Nashville, Tenn., August 14, from heart disease.

Jacob Hartmann, M.D., St. Louis Medical College, 1875, of New York City, died in that city, August 18, aged 63.

John L. Dodge, M.D., New York University, 1846, died at his home in Groton, Conn., August 18.

Societies.

COMING MEETINGS.

American Association of Obstetricians and Gynecologists, Cleveland, Ohio, Sept. 10, 1901.

American Academy of Railway Surgeons, Chicago, Sept. 12-13, 1901.

Mississippi Valley Medical Association, Put-in-Bay, Sept. 12-14, 1901.

American Public Health Association, Buffalo, Sept. 16-20, 1901.

Medical Society of the Missouri Valley, St. Joseph, Mo., Sept. 19, 1901.

Medical Society of the State of Pennsylvania, Philadelphia, Sept. 24-26, 1901.

American Electro-Therapeutic Association, Buffalo, Sept. 24-26, 1901.

Roentgen Society of the United States, Buffalo, N. Y., Sept. 10-11, 1901.

Rocky Mountain Inter-State Medical Association, Denver, Colo., Sept. 3-4, 1901.

Conference of State and Provincial Boards of Health of North America, Niagara Falls, Sept. 13-14, 1901.

Arkansas Colored Medical Association.—The seventh annual meeting of this Society was held in Hot Springs, August 15. Dr. Claude M. Wade, Hot Springs, was re-elected president and Dr. George W. Hayman, Little Rock, elected secretary.

Donley County (Texas) Medical Society.—This Society was organized at Clarendon, August 15, with the following officers: Dr. Joel P. Morris, Clarendon, president; Dr. Jerome D. Stocking, Clarendon, vice-president, and Dr. T. W. Carroll, secretary.

Lake Keuka (New York) Medical and Surgical Association.—The second annual meeting of this Association was held at Grove Springs, August 13 and 14. Dr. Clair S. Parkhill, Hornellsville, was elected president and Dr. William W. Smith, Avoca, secretary.

Fergus County (Mont.) Medical Association.—The physicians of Fergus County held a meeting at Lewistown, August 1, for the purpose of organizing a county society. Dr. William A. Long, Lewistown, was elected temporary chairman and Dr. Solon B. Stone, Lewistown, temporary secretary.

Gallia County (Ohio) Medical Society.—This Society was reorganized at a meeting held in Gallipolis, Aug. 22, 1901, and the following officers elected: Dr. Jenu Eakin, Patriot, president; Dr. Rufus D. Jacobs, Vinton, vice-president; Dr. L. B. Turner, Bidwell, secretary, and Dr. J. B. Dustin, Bidwell, treasurer. As a special feature of this meeting, Dr. P. Maxwell Foshay, of Cleveland, addressed the society on "Medical Organization."

Medical Society of the Missouri Valley.—The fourteenth annual meeting will be held in St. Joseph on Thursday, September 19, and Eureka Springs, September 20 and 21. The 'Frisco railroad will carry members and their ladies free from Kansas City to Eureka and return. One fare for the round trip ($1.90) has been secured from St. Joseph to Kansas City. Pullman fare will be $1.00 each way, $2.00 for double berth, which must be remitted to the secretary before September 1, in order that extra cars may be provided for the party. A daylight ride on the return trip may yet be arranged, if a majority prefer it. One day's scientific session will be held in each city, and last day will be devoted to sight-seeing at the Springs. In the evening a reception will be tendered the association by the local profession and Commercial Club. The Western Passenger Association has granted a special rate of fare-and-one-third for round trip, on certificate plan from points in Missouri, Iowa, Kansas, Nebraska, Oklahoma, Arkansas, North and South Dakota. A cordial invitation is extended to the medical profession, and an interesting meeting is anticipated. —Dr. Charles Wood Fassett, secretary.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Chloretone in Pertussis.

W. Lyon, of London, recommends the following combination containing chloretone to prevent the vomiting in pertussis:

R.	Bromoformi	m. ii	12
	Chloretoni	gr. iss	09
	Tinct. aurantii	m. x	60
	Mucilag. acaciæ	m. xx	1 30
	Aquæ q. s. ad	3i	4

M. Sig.: At one dose; or

R.	Bromoformi	m. ii	12
	Chloretoni	gr. iss	09
	Tinct. aurantii	m. x	66
	Glycerini	3i	4

M. Sig.: At one dose.

Treatment of Acute Rheumatism.

Dr. George Dock, Ann Arbor, in an interesting article in the *Phys. and Surgeon*, states that the first thing to be observed in the treatment of rheumatism is rest, however mild the symptoms may be. Flannel nightclothes should be worn. Rest for the affected joints should be especially considered. This can be secured by well-applied woolen bandages, and if necessary render the joint immovable by applying splints. The patient should be kept in bed as long as there is fever and joint pain. The diet in the febrile stage must be light, and water given freely. Tea, coffee and alcoholics should be avoided.

The bowels should be moved with small doses of calomel. As to the drug treatment, he recommends the salicylates, but emphasizes the importance of giving them in large doses. The system should be saturated. Not less than 120 grains should be given within twelve hours. He recommends sodium salicylate combined with an alkali such as sodium carbonate given similar to the following:

R.	Sodii salicylatis	3ii	8
	Sodii carbonatis	3ii	8
	Aquæ camphoræ q. s. ad	℥vi	192

M. Sig.: One tablespoonful every hour in water.

He adds that patients with acute nephritis or old interstitial nephritis should not be subjected to the foregoing treatment.

Aspirin as a Substitute for the Salicylates.

Aspirin, which is a comparatively new preparation, is recommended as possessing the following advantages over the salicylates: It does not cause any irritation of the stomach, nor does it disturb digestion. It does not produce the tinnitus aurium. The heart's action is not affected by its use.

Aspirin is a white, crystalline powder soluble in 100 parts

of water. Being a combination of acetic and salicylic acids it is used as a substitute for sodium salicylate, resorcin, salol, salophen and creosote, and should not be given in maximum doses with these preparations.

Treatment of Pruritus Ani.

The following gives great service in relieving the troublesome itching:

℞.	Alumnol	gr. xxx	2
	Pulv. camphoræ	ʒiss	6
	Lanolini q. s. ad	ʒi	32

M. Sig.: Apply locally night and morning.

To Relieve Burns.

The following containing hydrogen peroxid is recommended as an application for burns of the first or second degree:

℞.	Hydrogenii peroxidi	ʒss	16
	Adipis lanæ	ʒi	32
	Ol. rosæ	gtt. ii	12

M. Sig.: Apply locally.

The Treatment of Leg Ulcers.

Walbaum, in *Med. Rec.*, describes a dressing with which he states a cure is effected within three weeks. After thoroughly cleansing the skin, wet dressings of aluminum acetate are applied until the secretion has been somewhat checked and has lost its odor, which usually takes place in two or three days. A compress wet with spirits of camphor is then applied and covered with rubber protective, which in turn is surrounded with absorbent cotton and a bandage. The dressings should be renewed every second day.

Carbolic Acid in the Treatment of Eczema.

Carbolic acid has been employed in a very extensive manner in the treatment of different forms of skin diseases. Dr. J. F. Schamberg, as noted in the *Med. Standard*, states that the following renders good service as a lotion in the treatment of acute erythematous or papular eczema:

℞.	Acidi carbol.	gr. xxx	2
	Acidi borici	ʒi	4
	Glycerini	ʒi	4
	Zinci oxidi	ʒii	8
	Aquæ q. s. ad	ʒvi	192

M. Sig.: Apply locally night and morning.

In more chronic cases it should be used in greater strength as follows:

℞.	Acidi carbol.	ʒii	8
	Glycerini	ʒi	32
	Etheris	ʒi	32
	Spts. vini rect.	ʒvi	192

M. Sig.: To be used locally.

In the subacute vesicular eczema he recommends the following ointment containing phenol and calomel:

℞.	Acidi carbol.	gr. x	66
	Hydrarg. chloridi mitis	gr. xx	1 33
	Pulv. amyli	ʒii	8
	Pulv. zinci oxidi	ʒii	8
	Petrolati	ʒss	16

M. Sig.: To be applied locally.

The above is to be used in all forms except the very acute eczemas.

In other cases of subacute eczema he employs the following:

℞.	Acidi carbol.	gr. x	66
	Plumbi oxidi (C. P.)	ʒi	4
	Petrolati	ʒss	16
	Lanolini	ʒss	16

M. Sig.: Cleanse the affected parts and apply locally.

Exercise in Treatment of Paralysis Agitans.

Dr. J. M. Taylor, in *Jour. of Ment. and Nerv. Dis.*, recommends a plan to overcome the muscular rigidity and impairment of movement. The treatment should consist of exercise, passive movements and massage with oil inunctions. Passive movements, especially of the neck, back, and limbs, should be given. The spine should be extended by stooping, the legs and arms stretched to the greatest extent and deep breathing practiced. The most important movements to overcome the tremor are slow, full, forcible expansions and the attainment of normal position. He reports improvement in several cases in which the foregoing outline of treatment has been employed.

Treatment of Tinea Tonsurans.

Dr. Brown, in *Post-Grad.*, recommends the following in treatment of tinea tonsurans and facial erysipelas:

℞.	Acidi salicylici	gr. xx	1 33
	Chrysarobin	gr. xx	1 33
	Ichthyol	ʒi	4
	Lanolini		
	Vaselini, āā	ʒss	16

M. Sig.: Shave the scalp and rub the ointment over the entire surface.

A bandage covering the scalp should then be put on carefully to avoid any chance of the chrysarobin getting into the eyes. At the end of three days the bandage should be removed, the head washed and some emollient salve applied to check the dermatitis usually set up. After a few days the treatment is resumed if necessary.

Trichloracetic Acid in Hay Fever.

Dr. H. Krause, as noted in *Merck's Archives*, recommends the use of trichloracetic acid in 1 per cent. solution, to be snuffed up the nose as a cure for hay fever. During the past two years he has used it in more than thirty cases with good results. He states that improvement and cure follow in two to eight days.

Treatment of Rhus Toxicodendron Poison.

The following preparations are recommended in case of poison from rhus toxicodendron, to which not a few people are susceptible:

℞.	Ext. grindeliæ robustæ flu.	ʒvi	24
	Aq. menthæ pip.	ʒiss	48
	Aquæ rosæ	ʒiv	128

M. Sig.: Apply freely on cloths; or:

℞.	Plumbi acetatis	ʒss	2
	Tinct. opii	ʒss	16
	Aq. destil. q. s. ad.	ʒviii	256

M. Sig.: Apply externally in mild cases; or:

℞.	Ichthyol	ʒii	8
	Aquæ	ʒiv	128

M. Sig.: Apply externally every three or four hours.

Treatment of Acne Rosacea.

In the treatment of acne rosacea much weaker local applications should be employed than in acne vulgaris. The best results in the former are obtained according to A. Brownlie, in *New York Lancet*, by a combination of local and internal treatment and where the skin is extremely tender internal treatment alone. His plan of treatment is the use of ichthyol in doses of 5 grains after meals three times a day, increasing to 10 grains. Every night and morning the face is steamed for fifteen minutes, and ichthyol salve afterwards applied, which he often combines with ammoniated mercury. The diet must be carefully guarded.

To Prevent the Shedding of Hair.

Dr. David Walsh, of London, according to the *Med. Standard*, recommends the following as a lotion, stating that it is preferable to an ointment, especially in the case of women:

℞.	Acidi salicylici	ʒiii	12
	Acidi carbol.	ʒi	4
	Olei ricini	ʒiii	12
	Spts. vini rectif. q. s. ad	ʒvi	192

M. Ft. lotio. Sig.: Apply locally once or twice daily.

Treatment of the Paroxysms in Pertussis.

The following is recommended by Shoemaker:

℞.	Tinct. lobeliæ	ʒii	8
	Sodii bromidi	ʒiii	12
	Spts. etheris nitrosi	ʒi	32
	Syr. limonis q. s. ad	ʒiii	96

M. Sig.: One-half to one teaspoonful every one or two hours.

Epistaxis in People Beyond Middle Age.

Dr. George Coates, in London *Lancet*, states that he has made a study of five cases of epistaxis occurring in the aged, and has observed the causes to be mainly the same in each case, namely: Long-continued high arterial tension, some sudden cardiac disturbance; a congested condition of the venous circulation, with a leakage from an over-filled vein. He treated the attack locally to check the hemorrhage and as prophylactic measures he employed remedies which influenced the general circulation. The important thing being to empty as much as possible the venous circuit, he administered drugs which dilated the arterioles, thus relieving arterial tension, lessening the heart's labor and consequently relieving the congestion in the venous circuit. [To meet these indications nitroglycerin or amyl nitrite was very properly used. As heart tonics he employed strychnin and strophanthus. The latter ranks close to digitalis as a heart tonic if prepared by reliable druggists, otherwise the results obtained will be a disappointment. It differs from digitalis in that it does not increase arterial tension by contracting the peripheral arterioles and is therefore better suited in those cases in which it was used by Dr. Coates.]

Medicolegal.

Fifteen Thousand Dollars too Much for the Injuries.—The Supreme Court of New Jersey holds excessive the award of damages in the case of Spicer vs. Boice of $15,395, of which only $395 could be accounted for by disbursements. The plaintiff was 66 years of age. His physical injuries were painful, and to some extent permanent; but, while they had impaired, they had not destroyed any function or faculty. Under these circumstances, the court makes a remittitur of $7,500, the condition of letting the verdict stand.

Showing Extent of Injuries by Movement of Arm.—The Supreme Court of Minnesota holds, in the personal injury case of Adams vs. the City of Thief River Falls, that there was no error in permitting the plaintiff to illustrate her power to use her arm, claimed to have been permanently injured in an accident, by movements thereof at the trial and before the jury, she having been allowed to illustrate, by the movement of her arm in raising and lowering it before the jury, the nature and extent of the injuries which, under her claim, were sustained by her. Such experiments, the supreme court holds, were permissible and within the proper exercise of the discretion of the trial court.

Disciplinary Power of State Board of Health.—The question presented for decision in the case of the State Board of Health vs. Ross was whether, under the present act of the legislature of Illinois to regulate the practice of medicine, in force July 1, 1899, the state board of health has power to discipline and revoke the certificates of persons who had been licensed to practice medicine and surgery by the board prior to that date. Section 6 of the act provides that the board may refuse to issue the certificates provided for in the act in certain cases, and "may revoke such certificates for like causes." The appellate court held that this power of revocation plainly referred to certificates issued under the act, stating that if it was the intention of the legislature to give the board of health the power to discipline the holders of certificates issued prior to July 1, 1899, and to revoke such certificates, it had certainly failed to express such intention by this act. If the consequences of interpreting the statute according to its plain and obvious meaning are likely to prove disastrous to the people of the state at large, as contended by counsel, and as would seem not improbable, considering the large number of physicians and surgeons throughout the state, and the temptations to obtain money and practice by a resort to dishonorable conduct which are supposed to beset professional men, the responsibility, the court continued, must rest with the legislature, and not the courts. If the tendency of a law is vicious, the stricter its enforcement the sooner it will be amended or repealed. So the court answered the question raised in the negative. And the opinion of the appellate court is now adopted by the Supreme Court of Illinois, which affirms its judgment. The supreme court merely adds to that opinion that it has carefully examined all of the questions involved, and considered the criticisms of the opinion by counsel and their arguments against the correctness of the same, and is of the opinion the conclusions reached and announced in the opinion are correct.

Pecuniary Value of a Woman's Life.—With striking unanimity have two different courts, in different states, reduced judgments for damages for the deaths of women. In the case of Oakes vs. the Maine Central Railroad Company, the deceased, who left as her beneficiary a healthy child 5 years of age, and whose husband and the father of the child was in poor health, was 35 years of age, in good health, a good milliner, a prudent and industrious woman and affectionate mother, possessing a fair education. Now, the expectancy of life of herself and the beneficiary, the probability of her surviving her husband and being the sole support of her child, the length of time that might reasonably be expected to elapse before the boy would be able to help his mother and care for himself, the possibility that in time she in her turn might become dependent upon him for her support, the loss of a mother's training and good influence, which would tend to make him a better man, and capable of acquiring more money—all these, the Supreme Judicial Court of Maine holds, were considerations in determining the amount of the pecuniary injury resulting to the beneficiary. At the same time, the damages, under the statute under which the action was brought, could not be punitive, neither could they be given for her physical pain and suffering, nor for the grief and sorrow of the child and husband who survived, but the sum given must be the present worth of the future pecuniary benefits of which the beneficiary had been deprived. Under all of these circumstances, the court holds that a verdict for $3,500 was excessive, and that a new trial must be granted unless all above $2,500 was remitted. Likewise, in the case of Rafferty vs. the Erie Railroad Company, where the deceased was a single woman, 45 years of age, who kept house for her three brothers and a sister, who were all single, the Supreme Court of New Jersey holds that, the damages being limited by statute, to the pecuniary loss sustained by the next of kin, a verdict for $5,000 was, under the evidence, excessive. It thinks also that $2,500 would be the limit of a proper assessment of damages in this case, and makes the acceptance of a reduction to that amount the condition of letting the verdict stand.

Restriction of Expert Evidence in Will Cases Urged.—The Court of Appeals of Maryland says, in the case of the Safe Deposit & Trust Company of Baltimore vs. Berry, that observation and experience teach that there is danger of reaching inaccurate conclusions as to a testator's mental capacity if much reliance is placed on expert testimony founded exclusively on mere hypotheses. The expert, not having seen the individual about whose sanity he speaks, must rely solely on hypothetical statements of facts assumed to have been deposed to by other witnesses, which facts may have been colored by the persons who narrated them, or may be erroneously interpreted in their presentation to the expert, while the expert himself may be mistaken in the deductions he draws, even when the facts have been accurately rehearsed. Added to these sources of uncertainty, there is, and probably it is quite natural that there should be, more or less unconscious bias towards the side upon which the expert is employed; and, as a consequence, it is no unusual thing to see equally intelligent and equally honest experts arriving at diametrically opposite conclusions from precisely the same hypotheses. This anomaly, however, is not confined to alienists, but exists among experts on handwriting and on other subjects as well. But it is, for all of these reasons, the court declares, of the utmost importance, when the testator is not present to speak for himself, or to be seen by the jury, or to be personally examined as to his mental condition, that especial care be taken by the courts to restrict, within the narrowest limits consistent with settled rules of law, what the

court terms, this hazardous species of evidence. Now, it goes on to say, as the opinion sought from the expert must have relation to the subject-matter being inquired into, it is obvious that it must be based on the facts proved, or tending to prove which there has been some evidence offered. It can not be founded on the mere naked conjectures, conclusions, or inferences of witnesses, because those conjectures, conclusions, or inferences might not represent the real conditions which existed, and thus there might be substituted by the expert, for a deduction which he could have properly drawn from the facts as they really were, precisely an opposite conclusion, at variance with the facts, and utterly false, because deduced from erroneous premises. Then, if this be so, much more is it certain, it says, that it would be improper to ask an opinion on a conjecture or conclusion or inference, not of a witness, but of the counsel who propounds the interrogatory. Again, the court says that it is perfectly self-evident that a question which is propounded to prove is essentially inadmissible. That is to say, a hypothetical question obviously cannot assume as true the ultimate thing to be proved.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, August 17.

1 *The Present Status of the Surgery of the Prostate. William N. Wishard.
2 *Infection Spread by Domestic Pets—Resemblances Between Diseases of the Lower Animals and of the Human Subject. William B. Meany.
3 *Hot Air as a Therapeutic Agent. Orrin S. Wightman.
4 *Dysentery in the Philippines. M. H. Bowman.
5 Antisepsis in Throat and Nose Surgery. Henry Wallace.
6 *Some Observations on the Relation of the Alkalescence of the Blood to the Urinary Reaction. Heinrich Stern.

Boston Medical and Surgical Journal, August 15.

7 *Demonstration of a Model of the Abdominal Viscera. Thomas Dwight.
8 *The Origin of Oxalic Acid from Protein and Protein Derivatives. Arthur E. Austin.
9 Bile in the Abdominal Cavity. John F. Thompson.

Medical Record (N. Y.), August 17.

10 *Syphilis of the Liver. Max Einhorn.
11 *Pregnancy Following Myomectomy. James N. West.
12 The Summit Fissure. Oversphere and Undersphere. Wallace Wood.
13 *Notes on Malarial Fevers in Central America. J. Hobart Egbert.

Medical News (N.Y.), August 17.

14 *Fibroma of the Mesentery. J. B. Murphy.
15 *Arsenic and Its Compounds; With Special Reference to Soda Cacodylate. Charles Wm. Heitzman.
16 Acute Peritonitis: Its Treatment upon an Etiological Basis. C. D. Hill.
17 *A Plea for the Better Appreciation of the Limitations of Operative Work. A. M. Cartledge.
18 The Etiology of Melancholia. H. H. Stoner.

American Medicine (Philadelphia), August 17.

19 *Expectant Treatment. (Concluded.) A. Jacobi.
20 *Some Observations on the Treatment of Acute Insanity in General Hospitals. Daniel R. Brower.
21 *A Report of 212 Cases of Ventrosuspension of the Uterus. Richard F. Woods.
22 A Case of Gastritis Complicated by Myasthenia Gastrica, with Remarks on Weakness of the Gastric Muscle. Edwin Zugsmith.
23 *A Study of the Hemorrhoidal Circulation, with Special Reference to the Prevention of Postbleeding in Radical Operations for Piles. Will B. Davis.
24 Congenital Malformation of the Vagina; Report of Two Cases. M. J. Konikow.
25 *The Sodium Tungstate Test for Combined Chlorid in Chyme. A. L. Benedict.

Philadelphia Medical Journal, August 17.

26 Slow Pulse with Special Reference to Stokes—Adam's Disease. Robert T. Edes.
27 *Progressive Hardness of Hearing and Its Arrest by Surgical Removal of the Incus. Charles H. Burnett.
28 The Difficulties Attendant upon the Proper Treatment of Diseases of the Ear in Dispensary Practice. Francis R. Packard.
29 *Meniere's Disease. S. MacCuen Smith.
30 *A Nosological Study, from a Clinical Standpoint, of Certain Manifestations Accompanying and Following Malaria. G. W. Penn.

St. Louis Medical Review, August 17.

31 *Some Complications of Syphilis of the Skin and Their Treatment. Martin F. Engman.

Cincinnati Lancet-Clinic, August 17.

32 The Physiology of Deglutition. Wm. H. Muhlberg.
33 Some Experience in Taking Rest and Recreation by a Busy Physician. Geo. J. Monroe.
34 "While There's Life, There's Hope." H. V. Sweringen.

Medical Age (Detroit, Mich.), August 10.

35 Some Surgical Cases. (Cholecystotomy, etc.) (To be continued.) N. Senn.
36 Correction of Eye Affections with Glasses. Robert M. Lapsley.

American Journal of Obstetrics (N. Y.), August.

37 *Post-operative Sequelæ and Conservative Gynecology. Frank R. Oastler.
38 *Pus in Abdominal Operations. Hunter Robb.
39 *Is the Kraske Operation Justifiable in Women? George M. Edebohls.
40 Ovarian Cysts. R. S. Hill.
41 *Sactosalpinx Hemorrhagica. Ralph Waldo.
42 Cesarean Section, with Report of a Successful Operation on Patient with a Rachitic Pelvis. E. C. Davis.
43 *Ovarian Symptoms and Their Value as Evidence of Ovarian Pathological Conditions. L. W. Atlee.
44 Cesarean Section versus Craniotomy. Frank T. Meriwether.
45 Treatment of Abortion. Charles B. Reed.

American Practitioner and News (Louisville, Ky.), June 15.

46 Tuberculosis of Childhood. B. C. Frazier.
47 *Surgical Emergencies from a Medicolegal Standpoint; An Authentic Case. C. C. Godshaw.

Archives of Pediatrics (N. Y.), August.

48 *A Study of 555 Cases of Summer Diarrhea Among the Out-Patient Poor. Charles G. Kerley.
49 Case of Arteriosclerosis. Allen Baines.
50 *The Treatment of the Nasopharynx in Scarlatina. A. Seibert.
51 A Case of Appendicitis in an Infant Seven Weeks Old. George Blumer and H. L. K. Shaw.
52 Nodding and Rotatory Spasm of the Head, with Nystagmus in Rachitic Children. Augustus A. Eshner.

Medical Fortnightly (St. Louis), August 10.

53 Frank C. Hoyt, Physician, Editor, Alienist. Gershom H. Hill.
54 The Prevention of Tuberculosis. A. N. Bell.
55 Diseases of the Lungs and Pleura. (Continued.) Albert Abrams.

Western Medical Review (Lincoln, Neb.), August 15.

56 *Two Rare Tumors: 1, A Calcareous Uterine Fibroma, and 2, a Fibromyoma of the Urethra. H. G. Wetherill.
57 Observations in Modern Smallpox. M. L. Hildreth.
58 *A Few Notes on the Recent Epidemic of Smallpox. S. R. Towne.
59 Hay Fever. Carroll Eugene Cook.
60 *Tuberculosis of the Fascia. J. Clark Stewart.
61 Tuberculosis of Tubes, Ovaries and Peritoneum. R. E. Cutts.
62 *The Treatment of Tuberculosis of Bones and Joints. James E. Moore.

Pediatrics (N. Y.), August 15.

63 *Hemophilia Neonatorum. K. G. Wm. Greef.
64 Clinical Demonstration at the Post-graduate Medical School and Hospital. Augustus Caille.
65 *Hemorrhagic Disease of the New-Born—A Clinical Report of Two Cases. Adelaide Brown.

Kansas City Medical Record, August.

66 School Hygiene in Reference to Transmissible Diseases. John Wilson.
67 Summer Diarrhea of Children. E. J. Veidt.

Chicago Medical Recorder, August.

68 *On Streptothrical Infections. John H. Musser.
69 *Mental Therapeutics in Nervous and Mental Diseases. Richard Dewey.
70 Cutaneous Anthrax—Malignant Pustule. J. M. G. Carter.
71 A Preliminary Report of Some Observations of the Blood in Anemia. Joseph A. Capps.
72 Report of a Case of Gastrointestinal Infection. W. E. Harwood.
73 *Fourth of July Tetanus. H. Gideon Wells.

Iowa Medical Journal (Des Moines), August 15.

74 The Diagnostic Value of Pain in Intra-abdominal and Pelvic Diseases. D. S. Fairchild.
75 Perineal Cystotomy. D. W. Finlayson.
76 Gonorrhea. Charles D. de M. Sajous.

Indiana Medical Journal (Indianapolis), August.

77 *A Consideration of the Present Laws for the Commitment of the Insane of Indiana. Wm. B. Fletcher.
78 Dysmenorrhea. L. H. Dunning.
79 The Diagnosis of Acute Peritonitis. H. O. Pantzer.
80 *Feather-beds and Colds. Robert Hessler.
81 Kitasato, the Japanese Pathologist—The Plague in Manila. Frank W. Foxworthy.

St. Louis Courier of Medicine, July.

82 Should Gonorrhea Be Considered as a Local or Constitutional Affection? F. R. Sturgis.
83 The Early Recognition and Treatment of Pulmonary Tuberculosis. Alexander McPhedran.
84 The Teaching of Therapeutics. T. M. Rotch.
85 Psychoneurosis. G. P. Edwards.
86 *Subphrenic Abscess in Its Relation to Some Complications. J. McF. Gaston, Jr.
87 *The Present Position of the Diagnosis of Cancer of the Stomach. Alois B. Graham.
88 Report of a Case of Anthrax. Amand Ravold.

Ophthalmic Record (Chicago), August.

89 *Advancement. Forms of Operation and When Indicated. Francis Valk.
90 *Chalazion. Albert B. Hale.
91 Hereditary Binocular Ophthalmoplegia. C. F. Heard.
92 Syphilitic Retinitis. Harry Friedenwald.
93 A Case of Spontaneous Couching of a Congenitally Dislocated Lens. T. B. Schneideman.
94 Simplified Form of Stereoscope. Charles A. Oliver.
95 Simultaneous Rupture of the Choroid and Paretic Mydriasis, Without Paresis of Accommodation. Alexander Duane.
96 A Lid Retractor. William E. Baxter.

Memphis Medical Monthly, August.

97 Some Remarks on Practical Obstetrics. I. A. McSwain.
98 Congestive Fever. Sydney Thompson.
99 Empyema, with Report of Cases. O. S. McCown.
100 *Our Recent Epidemics of Smallpox, and the Failure of Glycerinated Lymph. F. J. Runyon.
101 Voice Preservation. Richmond McKinney.
102 The Management of the Consumptive. C. M. Sebastian.

Columbus Medical Journal, July.

103 Rapid Dilatation of the Eustachian Tube by Electrolysis a Factor in Treatment of Chronic Catarrhal Otitis Media, with Report of Cases. C. P. Linhart.
104 Chronic Otitis Media Complicated with Mastoid Cholesteatoma and Cranial Abscess: Operation, with Report and Exhibition of the Case. Andrew Timberman.
105 Pleurisy in Children. T. W. Rankin.
106 More Amicable Relations Between Physician and Pharmacist. A. M. Steinfeld.
107 "Caffeine." George B. Kauffman.

Denver Medical Times, August.

108 *The Necessity for Post-Graduate Instruction in Sanitary Science: Psychopathic Cults of Healing and Worship. Wm. P. Munn.
109 *A Report of One Hundred Cases of Typhoid Fever—Seen in Private Practice During the Fall of 1900. W. A. Kickland.
110 The Present Status of Nephrorrhaphy. C. K. Fleming.
111 *An Outbreak of Pyemia Suggesting Bubonic Plague. J. N. Hall.
112 Slight Ailments and How to Cure Them. M. Beshoar.
113 Keloid: Vitiligo; Alopecia; Circumscripta; Ichthyosis. John V. Shoemaker.
114 Address to the Berks County Medical Society by the Retiring President. F. W. Frankhauser.
115 The Therapeutic Benefit of Music. John V. Shoemaker.

New Orleans Medical and Surgical Journal, August.

116 *The Nose and Throat in Their Relation to Diseases of the Chest. William Scheppegrell.
117 The Importance of an Early Diagnosis in Tuberculosis. James Kilbourne.
118 *The Combination of Chloroform and Nitrite of Amyl. Paul A. McIlhenny.
119 A Case of Malarial Remittent Fever Treated with Large Doses of Arsenic. C. J. Gremillion.
120 A Case of Malarial Polyneuritis. C. J. Gremillion.
121 Clinical Test of Sodium Cacodylate. E. M. Dupaquier.
122 A Case of Malignant Pustule of the Lip—Recovery. T. S. Dabney.
123 A Case of Abdominal Pregnancy. L. G. Stirling.

Medical Standard (Chicago), August.

124 Drug Habits and Their Treatment. T. D. Crothers.
125 Narrowing of the Anus; Stricture; Hemorrhoids. J. Rawson Pennington.
126 Appendicitis and Its Treatment. A. J. Ochsner.
127 Streptococci Infection Complicating Abortion—Recovery. E. J. Clark.
128 Empyema: A Discussion of the Condition and Its Surgical Treatment. Aime Paul Heineck.

Texas Medical News (Austin), July.

129 *Uncinariosis (Anchylostomiasis) in Man and Animals in the United States. Ch. Wardell Stiles.
130 Cholera Infantum. M. M. Pool.
131 Quarantine and Sanitation: Their Mutual Relations and Importance. I. J. Jones.
132 Post-Partum Hemorrhage. B. S. Ezell.
133 Typho-Malarial Fever. E. H. Gray.
134 Summer Diarrheas of Children and Their Treatment. M. A. Auerbach.

New England Medical Monthly (Danbury, Conn.), August.

135 *The President's Address, American Medical Association. Charles A. L. Reed.
136 *Internal Medicine in the Nineteenth Century. N. S. Davis, Jr.
137 *The Value of Clinical Microscopy, Bacteriology, and Chemistry in Surgical Practice. (To be continued.) John A. Wyeth.
138 Chronic Gastritis. Charles J. Polland.
139 Uricacidemia. Edmond John Melville.

Texas Medical Journal (Austin), August.

140 The Robert-Hawley Goat Lymph Compound. W. P. King.

AMERICAN.

1. **Surgery of the Prostate.**—After reviewing the various methods of treatment of prostatic pathologic conditions, Wishard sums up by saying that operative procedures are of the greatest value when undertaken early and that when they are long deferred, serious resultant bladder, urethral and renal diseases make the outcome increasingly dangerous. Where the catheter has failed to give adequate relief, death is reasonably certain to occur before long, especially in cases where the urethra has greatly increased in length by elongation of its prostatic end, unless the suprapubic opening for either prolonged drainage or removal of obstruction is obtained. If the symptoms are not of a severe type and are not amenable to the catheter, and if the length of the urethra from the meatus to the point where the urine is obtained does not exceed nine inches a perineal opening generally affords opportunity for stretching the entire length of the prostatic urethra, for dividing the small collar-shaped growths around the bladder end of the canal, and for removing the small projections by the finger, forceps, or cautery. One-fourth or as asserted by some, one-third of the operative cases are suitable for perineal opening. If the suprapubic operation has been thoroughly done and the obstruction all removed, the patients afterward are assured of more perfect bladder function than by any other method. He thinks it must be conceded, however, that in view of the serious dangers involved, many patients should be subjected to nothing more than the formation of a suprapubic channel, as suggested by McGuire and modified by Morris. Morris' improvement lines the channel with skin, and hence it is not so apt to contract.

2. **Infection by Animals.**—The dangers of the spread of infection by domestic animals, birds, cats, etc., are remarked upon by Meany and probable instances related. He refers in conclusion to the principle of isolation now insisted upon by sanitarians and favors the tendency of well-to-do individuals to be treated in hospitals rather than at home.

3. **Hot Air.**—The hot-air treatment and its advantages are noticed by Wightman, who sums up as follows: 1. Dry heat is a valuable pain-reliever without any of the depressant effects common to drugs. 2. In connection with constitutional and medicinal treatment, we have in it a positive curative agent. 3. It is a stimulant to rapid repair and absorption. 4. It is one of the most valuable eliminative agents we possess. 5. Where indicated, it possesses a sedative action on the nervous system obtained by no other means.

4. **Dysentery in the Philippines.**—Bowman holds that Cruikshank's researches have shown that dysentery in the Philippines is not a single, but two distinct and separate diseases, acute dysentery due to the bacilli of Shiga, which does not produce abscess of the liver or ulcer of the colon but acts similar to cholera, though requiring four, six or twelve days before its termination or crisis; and amebic dysentery which invades the layers of the colon producing punched-out ulcers

and also invades the liver producing characteristic lesions. There are two varieties of the ameba which vary in nowise except in size, the pathologic variety somewhat larger than the nonpathologic, and these two varieties have been the cause of all the confusion regarding the ameba as the etiologic factor in dysentery. He submits the following conclusions: 1. The duality of dysentery is proved. 2. Acute dysentery is the result of infection with the bacillus of Shiga. 3. It is infectious in the same way that the bacillus of typhoid fever is infectious. 4. Amebic dysentery is caused by an ameba. 5. There are both a pathogenic and a non-pathogenic ameba, which fact has produced much confusion regarding the ameba as an etiological factor. 6. The lesions of amebic dysentery differ from those produced by the bacillus of Shiga. 7. The therapeutic agents generally used for the treatment of acute dysentery are in no way curative. 8. Magnesium sulphate should be included in this list. 9. Quinin solution is a specific for the amebic dysentery, but its employment in rapid, acute ulcerating cases is fraught with danger, and from the nature of the lesions it cannot be retained for a sufficient length of time to produce beneficial effects.

6. **Blood Alkalescence and Urinary Reaction.**—From two series of observations on himself Stern offers the following inferences; from the first series he concludes, 1. The higher degree of urinary acidity concurs with a lessened blood alkalinity and the increased alkalescence of the blood with a decline of the urine's acidity. 2. There is no permanent and absolute ratio between blood alkalescence and urinary acidity. 3. The blood, under normal conditions, possesses a certain inherent alkalinity. The degree of alkalescence possibly varies slightly for certain periods of the twenty-four hours, but the influence of the ingesta upon these variations is neither a material one nor always determinable. 4. The degree of blood alkalinity is normally not affected by the quantity of the ingesta. The quality of the nutritives may normally contribute toward the rise and fall of the blood's alkalinity, but only to a very limited extent. 5. A portion of the substances elaborated from the nutriment will be egested without having been conveyed to the blood. 6. Some of the nutritive material, isolated and not utilized in anabolism, may be transferred into the urine in a more direct manner, and thus the accidental variations in the urinary reaction may be partly explained. The second series of observations were taken with the object of rendering the urine alkaline and studying the eventual relationship between urine alkalinity and the concurring degree of blood alkalescence. He recapitulates the data from this in the following: 1. A number of drugs effect the alkalinization of the urine without causing a corresponding increase in the degree of blood alkalinity. 2. The transitory augmentation of blood alkalinity, recurring mostly during certain hours of the afternoon, seems to be the result of certain innate processes, which apparently proceed independently of the ingestion of food or drugs. 3. While a higher degree of urinary acidity may concur with a more marked alkaline condition of the blood, a lower degree of urinary acidity, called forth by the introduction of a drug, may coincide with a lower degree of blood alkalinity on one and the same day.

7.—This article has appeared elsewhere. See THE JOURNAL of August 10, title 58, p. 406.

8. **The Origin of Oxalic Acid.**—Austin's article is a review of Salkowski's investigations and a description of his methods, which lead him to the following conclusions: 1. Oxalic acid is derived from the carbohydrate group in albumins, presumably through the intervention of glycocoll by a process of splitting, through which the remainder is converted to urea, a vital process though imitated by strong oxidizing agents. 2. Oxalic acid may also be derived from uric acid by fermentative action and oxidizing agents, and perhaps also by vital processes. 3. Oxalic acid, present in many organs of the body, practically absent in the feces of animals fed on non-oxalic acid containing foods, yet ever present in the urine after long periods of fasting, may rightly be called a metabolic product and rightfully take its place with acetone, lactic, acetoacetic and oxybutyric acids as a measure of abnormal retrograde metamorphosis.

10. **Syphilis of the Liver.**—The first part of Einhorn's article reviews the literature on the subject and it seems that syphilis of the liver is not infrequent. He divides it into three classes: 1. Gummata. 2. Syphilitic cirrhosis. 3. Syphilitic disease of the liver belonging to either of the above groups, and accompanied with icterus, either acute or chronic. Several cases illustrating these groups are reported with diagrams illustrating the extent and character of the disease. In the majority of the cases pains in the right hypochondrium are present, either constantly or intermittently; in the latter case they are severe, resembling gall-stone colic. We also have digestive disturbances, eructations, constipation, and more rarely diarrhea. A feeling of tension in the upper part of the abdomen is often met with and general malaise, restless sleep, weakness, moroseness, etc., and gradual loss of weight. Icterus may be acute or become chronic. No matter to which one of the above groups the morbid process belongs, the organ is usually more or less swollen in the right mammillary line between the free border of the ribs. Gummata may be sometimes recognized as uneven, round, hard nodules on the surface. If there is a cirrhotic process a marked swelling is encountered and in advanced stages an amyloid degeneration occurs. The organ then presents a harder and smoother appearance than normally. Enlargement of the spleen is not of uncommon occurrence; ascites may occur late. Diagnosis can be most positively made where gummata exist with other signs of recent or present attacks of syphilis. It is more difficult when tumors are present without other signs of existing syphilitic processes or without history; specific treatment may be required to confirm it. It is less certain when we have simply an enlarged, somewhat indurated liver, with or without icterus. Syphilitic cirrhosis resembles the ordinary hypertrophic cirrhosis so much that they are hard to clinically distinguish. Gummata are usually confounded with malignant neoplasms. If the disease has lasted for some time, with syphilitic manifestations, and no considerable loss of weight, it is probably syphilitic, but a slow, steadily progressive affection of the liver without intermission and with loss of weight and strength, and with neoplasm, the condition is, practically speaking, malignant. According to Neusser an increase of eosinophile cells in the blood points to syphilis. Alcoholic cirrhosis may be confounded, but the antiluetic treatment or the history may help to decide. It would appear from the literature that the prognosis is rather grave, but Einhorn seems to think if the diagnosis is made before the patient loses too much strength and before grave symptoms have yet occurred, the prognosis is very favorable. Of the 10 cases he reports only one died, and even this one had been considerably benefited; all the others were either permanently cured or much improved. Treatment is necessarily specific; the iodids play an important rôle, and while these may alone be sufficient, he has seen the best results from the combined use of this drug with mercurial inunctions. Special symptoms should be attended to: Icterus can be helped by using glycerin, a teaspoonful three times a day, one-half hour before meals. Iron and arsenic for anemia; special measures for ascites may be required. Proper hygienic and dietetic treatment is essential.

11. **Pregnancy Following Myomectomy.**—A number of cases from the literature are reviewed by West, and one is here reported by him; 14 in all, with 18 pregnancies, 3 patients having been twice pregnant. Of the 3 patients who were twice pregnant there were 2 healthy children born and 9 healthy children born to 14 at normal term. Two children went to term and were born dead. There were 6 abortions, most occurring in the third or fourth months; while all the uteri had extensive scars, in only 2 cases was it necessary to use forceps. All the presentations were normal. In the author's case in which nine incisions had been made into the uterine tissue, the labor lasted twelve hours and expulsive force was ample, the only complication being a lacerated perineum.

13. **Malaria in Central America.**—Egbert finds that fleas are active agents in transmitting malaria in the region of Honduras, where he made his observations. Mosquitoes were almost unknown.

14. **Fibroma of the Mesentery.**—Murphy reports a case and discusses the condition. He has been able to find in the literature not more than 11 similar cases. The gravity of the operation for mesenteric fibroid or malignant tumor is considerable on account of the shock and hemorrhage. In most cases of simple and encapsulated fatty tumors and cysts, however, the conditions are entirely different from fibroma or malignant disease. Statistics show that 28 per cent. of the cases recover by simple aspiration. Where the cysts have been tapped and fixed in the abdominal wound, there has been a mortality of 5 per cent., while where it has been directly removed the death-rate has reached 52 per cent.

15. **Soda Cacodylate.**—After noticing the use of arsenic under various conditions, Heitzman reports brief histories of a number of cases where cacodylate of soda was used. He thinks the drug is eminently adapted to cases requiring large doses of arsenic and is absolutely safe even in massive doses, being apparently non-toxic. It may be given hypodermically in doses of 1.5 gr. daily and up to 6 gr. daily by the mouth or rectum.

17. **Limitations of Operative Work.**—Cartledge pleads for more conservatism in operation. He thinks that there has been too much of a craze for operating, especially in abdominal cases and too many tyros have attempted it. He says, given a case where the focus of virulent infection has suddenly emptied its contents into the peritoneal sac at some point, either at the appendix, a septic tube or an intestinal lesion, if the sepsis has rapidly augmented, spreading to the entire peritoneal covering, characterized by no adhesion of limitation and manifesting itself objectively by a pulse-rate of 140 or 160, great abdominal distention, paresis of the intestine from toxemia and gas which precludes the possibility of attaining results from purgation, and the destruction of abdominal breathing—under such circumstances he does not believe that any surgical operation which has for its purpose the administration of an anesthetic, opening the peritoneal cavity with its subsequent drainage, can be other than productive of the greatest harm and hasten the usual disastrous termination. In reply to the argument which is usually made, that if 2 patients out of 100 can be saved, operation would be still justifiable, he answers that from a painstaking observation of a number of cases he is led to the belief that 5 per cent. would be saved by Nature, aided by such measures as sustaining the patient's heart, saline infusion, etc. Of course, the question will arise as to the accuracy of the diagnosis, but he is sure that we have all in the past operated on many of these cases that were hopeless and have swelled our mortality list and brought surgery into disrepute. Other unfavorable conditions than general septic peritonitis are mentioned, such as jaundice, renal insufficiency, ovarian and uterine cancer; here we can hold out but little promise of any recovery.

19. **Expectant Treatment.**—Jacobi commences with reporting some of his own early mistakes which he says still reveal themselves on sleepless nights even after nearly half a century, and he lays down the following platform, which he thinks should be adopted by the profession: In order to obtain indications for treatment, make a diagnosis. That art is becoming both more accessible and, through honest and hard work, more easy with the aid of modern methods. Remember that most diseases have, indeed, a tendency to spontaneous recovery, but also that recovery is not always complete and that invalidism should not be invited through neglect of treatment. Complications are possible as long as an illness lasts, and with every day cut short, the dangers of an otherwise typical disease are diminished. The experience of old men in the profession who claim they employ less drugs with advancing years, means sometimes either an inability to master new methods of diagnosis, or the knowledge of new medicines or physical remedies. There is no one treatment for a disease adapted to every patient. There is no such thing as a uniform treatment for pneumonia, or for typhoid fever, or, even in spite of antitoxins, for diphtheria or tetanus. We should not try to treat the name of an illness, but the patient.

20. **Treatment of Insanity in the General Hospital.**—Brower points out certain defects in public hospitals for the insane at the present time, that they are too large for proper individualization, too far from the homes of the patients and antiquated, cumbersome, and unscientific in their methods of admission. Also their degradation by politicians which has been too much the case in some of the states. He believes in the advantages of treatment of insanity in general hospitals, in special wards if necessary.

21. **Ventrosuspension.**—From 212 cases of ventrosuspension tabulated from the case-books of Drs. Penrose and Beyea, Woods deduces the following conclusions: 1. That the course of subsequent pregnancies and labors do not seem to be impeded by this operation. 2. That the operation in the great majority of cases carefully selected gives excellent results, and the relief experienced is lasting. 3. That it restores the normal condition of the uterus, and does not substitute a fixed unnatural anteflexion. 4. That the risk is minimum, and the danger from hernia very slight. 5. That by including a small amount of muscular tissue we increase the strength of the ligament without risk to the patient.

23.—See abstract in THE JOURNAL of July 13, p. 137.

25. **Sodium Tungstate Test.**—Benedict has noticed the following in his experience with the sodium tungstate test for combined chlorid in chyme. He was surprised to find that using dimethylamidoazobenzol, the free HCl seemed to have entirely disappeared, that is to say, the red color was lacking from chyme in which sodium tungstate had been dissolved, though previously present, while the total acidity had not correspondingly decreased. He repeated the tests three times, once using heat to dissolve the sodium tungstate. In all three instances the results agreed within the usual limits. The total acidity by phenolphthalein was 88 to 90 degrees free HCl by dimethylamidoazobenzol 50 to 60 degrees. After adding sodium tungstate the diminution of acidity was from 20 to 30 degrees. The diminution corresponding to combined chlorids by alizarin was 19 degrees. The large variation in the application of the tungstate test was one of method, not of inaccuracy. The lower reading—higher reading of total acidity—occurring when the first appearance of a distinct reaction with phenolphthalein was noted; the higher reading—lower total acidity—occurring when, after a lapse of 5 to 10 minutes, repeated increments of sodium hydrate solution were added as the end reaction faded. This fading of end reaction always occurs to some extent, especially when unfiltered chyme is used, owing to the slow neutralization of undissolved particles of proteid. In the present instance the chyme was decanted but was unusually free from such particles. The same chyme, without adding sodium tungstate, did not show a corresponding recrudescence of the end reaction. This phenomenon could not be due to an imperfect preliminary solution of sodium tungstate, as just the opposite effect would have been produced by the gradual solution and consequent diminution of acidity. His first thought, on noting the absence of color with dimethylamidoazobenzol was that the free HCl had also been neutralized, but this was obviously not the case, as the whole diminution of acidity did not equal that due to free HCl.

27. **Incudectomy.**—Progressive hardness of hearing or so-called chronic catarrh of the middle ear is, according to Burnett, associated with impaction of the stapes, and its liberation by the removal of the incus and consequent interruption of the retractive power of the tensor tympani, relieves the condition tinnitus aurium, and ear vertigo disappears. While it can improve the hearing only slightly in the ear affected, the progressive nature of the disorder is altered and the disease arrested. He has been able to observe closely some of the cases first operated on 13 years ago and finds

this result. The only explanation he offers is that the contraction of the tensor tympani, spasmodic in character, being overcome by the removal of the incus in one ear, the synergetic contraction of the tensor in the opposite ear induced by cross influence is also overcome by a beneficial cross influence emanating from the operation on the diseased ear. Several cases kept under observation are reported and the method of operation described. Since 1892 he has operated upon 53 cases of progressive hardness of hearing in order to break the retractive force of the tensor tympani, 41 times by incudectomy, 4 by resection of the long limb of the incus and 8 by tenotomy of the tensor tympani. Incudectomy he considers the preferable operation and proposes to present the results in a future communication.

29. **Meniere's Disease.**—The term Meniere's disease is criticized by Smith, who holds that, if it means anything, it must be restricted to that complexity of symptoms at present recognized as the outcome of what is termed apoplexy of the labyrinth and this must be primary and occur suddenly in patients previously free from ear trouble and enjoying excellent health at the time of the attack. Thus restricted, Meniere's disease is a most exceptional rarity, and if we exclude previous systemic disease as a causative factor, it must be regarded as the result of traumatism. The symptoms of Meniere's disease do not arise, as it seems to have been definitely shown, from a single disease of the labyrinth, but are more or less prominent in traumatisms and various other pathologic changes involving the ear and adjoining structures, and he asks would not the cause of otology be best served and confusion averted by adopting a nomenclature defining as far as possible the location of the various affections of the internal ear without the consideration of Meniere's disease. He thinks that in many instances, injuries to the brain substance proper are the cause of an inability to move in a forward direction. He offers the term tympanic vertigo as efficient and impressive, to distinguish between vertigo due to middle-ear disease and that involving other parts of the ear or neighboring structures.

30. **Malaria.**—The peculiar *x*-fever which follows malaria and is resistant to quinin in the South, is, according to Penn, best considered as post-malarial fever, a sequela of the estivo-autumnal form occurring in susceptible individuals or those whose condition is such as will permit the toxic effects of the germs to continue the fever after the germs have left the body. It is not, practically speaking, a malarial fever at all, nor is it a new fever, but it is a post-malarial fever. This accounts for the irregularity, the frequent mild type of the cases, and the time of their occurrence. He desires to call the attention of laboratory workers to this line of thought and suggests, if confirmed by investigation, the possibility of good effects from serum treatment or antitoxin in these cases.

31. **Syphilis.**—The skin complications of syphilis mentioned here by Engman are tuberculosis, epithelioma, blastomycetic infection, erysipelas, seborrhea, pyogenic infections, mixed chancre, trauma, and hemorrhagic syphilid. He also points out how iodin intoxication may be engrafted upon the syphilitic lesion.

37. **Post-Operative Sequels.**—It was the purpose of Oastler to obtain as far as possible the histories of post-operative sequels of about 200 cases of complete hysterectomy and double salpingo-oöphorectomy and 150 cases of more conservative operative procedures so as to compare the merits of the two. Of the 200 cases selected for the first series, the conditions were carcinomata, sarcomata, fibromata of the uterus, septic metritis, ovarian cyst, uterine rupture, pyosalpingeal abscess, tubercular salpingitis, hydrosalpinx and hematosalpinx and ectopic gestation. The methods employed, whether abdominal or vaginal, did not seem to make much difference. He finds that the symptoms of artificial menopause occur with more regularity and greater severity and are of longer duration than is generally supposed, some women being left invalids. The symptoms are dependent for the most part on removal of the ovaries rather than the uterus; therefore, after suprapubic hysterectomy, there is no indication for leaving the uterus. Also that many cases in which it has been customary to advise hysterectomy can be treated in future by more conservative methods, which have been mentioned, such as leaving the ovaries wherever possible, resecting cystic ovaries and implanting small portions of healthy ovary on the side of the uterus or broad ligament, resection of the tubes or seat of hydrosalpinx or hematosalpinx and draining pelvic exudates and cases of pyosalpinx by the vagina. These conservative methods do away with the artificial menopause, relieve symptoms, and allow patients to continue their sexual life with the possibility of pregnancy.

38.—See abstract in THE JOURNAL, XXXVI, p. 1650.

39. **Kraske Operation.**—Edebohls finds the Kraske operation objectionable; and recommends an operation consisting in removal of uterus, resection of cancerous bowel, and end-to-end anastomosis of the sigmoid and rectum, all performed at one sitting by anterior abdominal incision which he finds in every way superior. He claims its superiority over the Kraske procedure in cases of high carcinoma of the rectum in the following important particulars: "1. A preliminary colostomy and, in favorable cases, a secondary operation for the closure of the artificial anus becomes unnecessary. 2. Removal of the sacral glands and all affected tissues posterior to the rectum can be accomplished with greater facility and thoroughness. 3. The liver can be examined for secondary cancerous nodules immediately after opening the abdomen, and, if such nodules be found, the abdomen can be closed without inflicting further unnecessary operative injury upon the patient. The unavoidable conclusion to be drawn from the above premises is that the Kraske operation is never justifiable in women."

41. **Sactosalpinx Hemorrhagica.**—Waldo reports two cases which he thinks demonstrate the fact that hemorrhagic accumulations in the tubes are not always due to ectopic gestation. They are carefully observed and reported and pathologic examinations made and appear to have been due to hemorrhage in the tube independent of any ectopic pregnancy.

43. **Ovarian Symptoms.**—The ovarian symptoms which are commonly attributed to inflammatory conditions are held by Atlee to be often due to other conditions than diseases of the ovaries themselves. He thinks certain other uterine pathologic conditions may cause symptoms most marked by pain referred to the ovaries and that in certain women whose health has deteriorated, though showing no pathologic condition beyond anemia of mild grade, symptoms referable to the ovaries are not infrequent. In women with neuralgic dyscrasia, if neuralgia develops in the lumbo-abdominal distribution, very confusing symptoms may arise, and in cases of oxyluria, symptoms referable to renal, ureteral or vesical dilatation may simulate or lead to a diagnosis of ovarian disease. Besides this we have two great neuroses, neurasthenia and hysteria, giving rise to symptoms simulating disease from pure pathologic conditions. The treatment is the correction of the morbid conditions giving rise to them and with a better diagnosis and understanding of these cases we find the indications for spaying narrowing themselves down to a very small figure as compared with those of the past decade.

47.—See abstract in THE JOURNAL, XXXVI, p. 1727.

48. **Summer Diarrhea of Children.**—An analysis of 555 cases of summer diarrhea was made at the out-patient department of the Babies' Hospital in New York during the months of June, July, August and September, 1900. The cases were all from the tenement population, the majority were under twelve months of age, and only 51 were over 2 years. About 14.5 per cent. were breast-fed, out of those under six months of age, and 10 per cent. between the ages of six and twelve months, though some allowance must be made for mothers' statements in this regard, as there are very few tenement breast-fed infants who are not given milk, soups, tea, etc. The larger proportion were fed on cow's milk diet wholly or in part. Very few took proprietary

foods. One hundred and fifty-seven cases were of twenty-four hours' duration before first seen; 197 had been ill from two to five days, and 76 from five to ten days; 111 had had diarrhea over ten days, and 11 had been ill for two weeks. With some there was simply so-called dyspeptic diarrhea with moderate fever and slight prostration, others had been ill for several days with high fever and were in a critical condition. Nearly one-half recovered within a week. Quite a number lingered along until the fourth or fifth week and some for several months. In 56 the treatment was not continued. Out of 449 treated to the conclusion of their illness, 10 died, the death-rate being a little over 2 per cent. There was one invariable rule of treatment and that was to stop the milk at once. It would be impossible to the great mass of physicians to differentiate bacteriologically the nature of the infection in a large proportion of cases; this has been impressed upon him by considerable autopsy experience. We learn that every case of summer diarrhea must be looked on as dangerous and treated vigorously whether the initial symptoms are mild or severe. He doubts whether, in the majority of cases, the streptococcus or colon bacillus play a very important part. The average case is of gradual onset. If the milk is discontinued, a substitute must be found and the one he finds most useful is cereal water, usually barley water, and where this does not answer, rice water. The directions are: Robinson's baked barley flour, two tablespoonfuls, water one pint, boil for twenty minutes, strain and add water to make one pint when the cooking is completed. Rice is similarly treated. Brandy and whiskey should never be given to children with summer diarrhea, as the dangers of nephritis and stomach involvement are enough without provoking them with liquors. Animal broths should not be added to the diet in too large amounts on account of their laxative effects, but he uses them moderately and with care. Brandy and egg water mixture, so popular with many, is an atrocious milk substitute. Dextrinized gruels have a useful field in summer diarrheas, the dextrinization being of value as it offers more concentrated nourishment. Care should be taken that the cereal water is not at a higher temperature than 100 F. The substitute diet should be allowed to be given at two-hour intervals, if the child will take and retain it in good quantities. Boiled water may be given at any time. The patient should be kept in the largest room, and if there is fever; sponged in cold water for fifteen minutes several times a day. The milk diet is resumed gradually, diluting the barley water, with slight increase every day or every other day, according to the condition of the stools. Various drugs were tried after the initial dose of castor oil. The newer tannin preparations were used in about 50 cases. There are four that may be relied on as of use in this condition, they are, calomel, castor oil, bismuth and opium. The two first were given in every case, and in 26 they were the only ones given. Calomel is preferred in cases where there is vomiting or a tendency thereto and when the case is not particularly urgent 1/20 to 1/10 of a grain at hour intervals. Castor oil is given in all septic cases with infrequent stools and without stomach involvement, in which a prompt washing out of the small intestine is desired. Bismuth was given in 432 cases and frequently large doses, not less than 10 grs. every one or two waking hours regardless of the age of the patient. To be of service it must produce black stools, that is, to be converted into sulphide in the intestine. If it passes through the bowel unchanged, sulphur should be supplied in the form of precipitate of sulphur, a 1-gr. powder given with each dose of bismuth. Opium is indicated if there is pain, tenesmus and frequent stools, and he has found it necessary to use it in 200 of his cases. Four or five passages a day are required to maintain drainage. But when the case is one of intestinal infection with infrequent foul stools or no stools at all, active laxatives are the only medication. Many children die because of the physician's idea that the diarrhea must be stopped. Kerley is not in favor of too frequent bowel irrigation as it may produce injury, straining, distension, etc. He usually employs a normal salt solution, luke warm, if there is high fever. Where there is blood in the stools he has used tannic acid, though he doubts its special value. The method he employs is the soft rubber catheter, No. 14, English, attached to a fountain syringe, the bag of which is held three or four feet above the child's body. When the catheter has been introduced about two inches the water is allowed to pass in slowly, filling the colon. This in a child eighteen months of age will require twenty-four to thirty ounces of water. When this or a lesser amount, at least one pint, has passed in, it is allowed to run in and out at the same time. The general management of the child is important; instruction should be given as to the care of bottle and nipple. He thinks that dispensaries do excellent work in instructing mothers how to care for their children. The municipalities should establish milk laboratories and ice stations for the poor, where these necessities may be obtained free or at a very small cost.

50. **Scarlatina.**—One of the graver dangers of scarlatina is in the invasion of the mucosa of the nasopharynx by bacilli causing scarlatinal sore throat, viz., streptococci. Seibert uses for this condition a prescription composed of tincture of iodin, 2 grams; potassium iodid, 1 gram; distilled water, 120 grams; carbolic acid, 10 drops. A teaspoonful of this mixture is administered every hour. An experience of twenty years has failed to show any carbolic intoxication with this mixture. Mild iodism and slight gastric pains may temporarily be produced. To clean and disinfect the infiltrated mucosa he employs irrigation with 1 to 5 per cent. warm solution of ichthyol repeated every six hours where the infiltration begins to obstruct the passageway between the nares. Where these are insufficient, more vigorous measures are required. During the past year he has treated six cases with local applications of 50 per cent. resorcin solution in alcohol, which he has also employed for the last eight years for the treatment of post-nasal catarrh in infants and children. He reports a case of scarlatinal nasopharyngitis treated with this prescription. He considers it imperative to attempt to destroy the pathogenic bacteria in scarlatina whenever they come within our reach and these resorcin-alcohol applications have proven themselves harmless and are indicated, he considers, whenever the nasopharynx becomes involved.

56.—See abstract in THE JOURNAL, XXXVI, p. 128.

58. **Smallpox.**—Towne thinks that modern sanitation has mitigated this disease, and it is not impossible but there may have been an acquired immunity through the vaccination of generations. The hesitancy with which the diagnosis has been made in this epidemic is due to various causes, inexperience with the disorder being one cause.

60.—See abstract in THE JOURNAL, XXXVI, p. 128.

62.—Ibid.

63. **Hemophilia Neonatorum.**—The nature of hemophilia has not been cleared up and Greef reviews the theories and findings in congenital cases. Three cases are reported, in two of which postmortems were made. He is inclined to believe that the condition rests upon abnormal permeability of the vascular walls. The large majority of children succumb and little can be done by treatment. He is inclined to think that many of the cases classed as meleua neonatorum were fatal cases of hemophilia.

65. **Hemorrhagic Disease of New-Born.**—Brown reports two cases of hemorrhagic disease of the new-born, the clinical history of which corresponds more exactly with the classified description of Buhl's disease. The ictero-cyanotic skin, extreme wasting, marked gastro-intestinal hemorrhage, eczema, absence of continuous temperature and time of occurrence make points of agreement. The treatment in case 1 was with gelatin tubes containing about 1 dram, heated and diluted and fed to the child with very marked perceptible effect. In the second case gelatin was used in another form and the hemorrhage rapidly decreased.

68. **Streptothrical Infection.**—Musser reports two cases of streptothrical infection, one which, although postmortem observation was lacking, was interesting as determining the

possibility of recognizing the more or less obscure conditions met with in pulmonary streptothrical infection and the other as showing the doubtful symptoms and rapid course of localized cerebral infection by these organisms. He closes his paper with the following conclusions: "1. That the streptothrix in some varieties is pathogenic to man and gives rise to inflammatory, suppurative and necrotic lesions in the lungs and the skin, and by metastasis, probably in the brain and spinal cord and rarely, other organs (the kidneys). 2. That, while this pathogenicity is more than likely, and is primary, yet it must be remembered, it may be a secondary growth in the course of other infections. 3. That, in the pulmonary cases especially, death is due to a mixed infection. 4. That so-called sterile abscesses may be instances of streptothrical infections. 5. That afebrile processes may be due to this infection, or, conversely, this affection may be unattended by fever. 6. That the morphological relations to tubercle bacilli and allied organisms must be remembered. 7. That clinical observation and laboratory studies have yet to determine the clinical course of the streptothrical infections and their relationship to other streptothricæ on the one hand, and to tuberculosis on the other. They are not unlike other streptothrical infections, if these clinical facts are true, in that in actinomycosis, for instance, we find frequently a chronic afebrile course." He says these questions are as yet *sub judice* and require laboratory investigation and future clinical observation. As a suggestion of the nature of the infection, the question of leucocytosis should be looked into.

69.—This article has appeared elsewhere. See THE JOURNAL, xxxvi, paragraph 49, p. 1894.

73.—Ibid., paragraph 25, p. 1738.

77. **Commitment of the Insane.**—Fletcher criticises severely the old and new laws regarding the commitment of the insane in Indiana, maintaining that they are lacking in proper securities to those charged as being insane and in many respects take the form of secret inquisition. He does not believe that many non-insane persons are detained in public asylums. He thinks it impossible with the officers of these institutions, but it is perfectly possible under the Indiana law for persons to be picked up without chance for defense and committed as insane.

80. **Feather Beds and Colds.**—Hessler considers the use of feather-beds and the dusty condition developing after their long use, responsible for many of the irritations of the respiratory tract. The same objection applies to curtains, carpets and tapestry that collect dust and he particularly mentions the German fashion of using feather beds as objectionable.

86.—This article has appeared elsewhere. See THE JOURNAL, xxxvi, title 142, p. 1736.

87.—Ibid., July 27, paragraph 63, p. 287.

89. **Advancement.**—This term is defined by Valk as the bringing forward the insertion of the tendon of one of the straight muscles of the eye, from its normal position of attachment to the eye-ball to another in the same plane, but nearer to the cornea, but he includes also the shortening of the muscle plane at its insertion into the sclera. He discusses the different operations and describes the one which he has found most advantageous, which he credits to Savage, though he himself worked simultaneously in developing it. The operation as he performs it in latent, fixed or paretic squint, is described as follows: "After the eye has been properly prepared with a solution of boracic acid and a solution of cocain used or an anesthetic if necessary, the lids are separated by a speculum and the conjunctiva raised with the forceps over the lower or upper point of the insertion of the tendon. I then make a vertical incision followed by one horizontal, forming an L. This is dissected loose from the underlying tissue and then an opening is made in Tenon's capsule and the small hook is passed beneath the tendon, as the point of the hook comes out another hook is inserted in an opposite direction and the two hooks forcibly drawn apart, so exposing the tendon and part of the muscle. I now pass the small instrument, called twin strabismus hook, beneath the muscle and the hooks are allowed to separate by the action of the small spring in the joint and the two hooks are then removed. We now have the muscle and the tendon fully exposed and ready for the suture. Now, taking a piece of sterilized catgut from the capsule, we thread the needle and pass it first through the lower part of the tendon, then through the muscle, as far backward as we wish to make the 'tuck,' passing from within outward. It then goes across the belly of the muscle and is passed through, from without inward and back to the tendon where it passed from within outward, at a point corresponding to the first insertion. As the ends are tied over the tendon at this fixed point, we see readily the 'tuck' formed as the muscle belly is drawn forward and its long axis shortened. However, in case of fixed squint, I do a complete tenotomy of the opposing muscle before the suture is tied." The question when this operation is indicated seems to him the most important. He has no confidence in any method of examining that will "take the higher centers off their guard," or destroy the fusion force or guiding sensation of the eye and he uses the tests that destroy it simply as confirmatory. He asks, do not physiologic conditions show that Nature intended the eye should have power to move the eyeballs more in one direction than others, that the interni should be the most powerful—even independent of the power of convergence—and next, the externi, and in following order the inferior and the superior, the weakest of all. Should we not find, he asks, that the power of adduction is two to four times greater than that of abduction, and the power to turn the eyes downward somewhat greater than that of sursumduction, and, therefore, he fixes his standard as that in which the power of abduction is more or less one of fixed condition under which the eyes will diverge 6 or 8 prism degrees, so as to fuse or blend the retinal images, and then we can expect to find the power of abduction anywhere from 12 to 30 prism degrees without any muscular imbalance. Similarly we find the sursumduction one, two or three degrees in each eye and the opposing muscle will show deorsumduction of about one degree greater. With this condition of the muscular balance fully confirmed by several tests, he does not think we can have any muscular imbalance, without regard to what the other tests may develop when deprived of the fusion force. In defining noticeable modifications from that standard for his indications for operation, he points out the indications in various conditions, esophoria, exophoria, diplopia, convergent squint, etc. From his past experiences with the operation of advancement and shortening the indications depend upon one of degree, in reference to the change in position of the visual line; the power of the weak muscle, and that of imbalance of the muscle apparatus, as shown by the tropometer and tests of duction of prisms. He considers that advancement is fully required when we have a deviation of the visual line of more than thirty degrees of the arc. He concludes "That shortening is indicated in all cases of squint, if not too great, less than thirty degrees, combined with tenotomy, of the opposing muscle if necessary. That in all cases of imbalance—without any deviation of the visual line—the operation of shortening the weak muscle, thereby improving its power to turn the eye under the stimulation of the fusion force, is the best in my hands, as I have fully proved its application and usefulness. That the operation of shortening is also indicated in cases of paresis and the so-called paresis of divergence, in which we have a latent insufficiency of the muscular power, that frequently becomes manifest when they are about 40 years of age and presbyopia with hyperopia is present. That in all cases of heterophoria or latent squint, either lateral or vertical, the best results will always be obtained by the operation of shortening, without any fear of an over-correction, as long as the guiding sensation of the eye is free to act on the cerebral centers, as the process of healing takes place."

90. **Chalazion.**—Hale defines chalazion as tumor of the lid involving the Meibomian gland with obliteration of the glandular elements; limited by a surrounding membrane in which are found the perverted secretion of the earlier gland, glandular debris, micro-organisms and sometimes pus. He

thinks that the general health has much to do with its formation, some disorders producing a thickened secretion, and that the constant rubbing of the exposed lid, aided perhaps by germ infection, starts the inflammation which leads to chalazion. The only thorough treatment of this condition is excision in some cases, followed by the curette. Operation through the conjunctiva is more often called for in chalazion of the lower lid where the tarsus is thinner and the conjunctiva less intimately attached. In the upper lid the usual choice is excision through the skin of the lid.

100. **Smallpox.**—The epidemic of smallpox, the diagnosis of which is questioned by some in Clarksville, Tenn., is reported by Runyon, who calls attention particularly to the failure of glycerinated vaccin lymph in these cases. He does not know where the fault lies in the substance used. It may possibly have been in the original stock, or possibly from some other cause, but he would not risk the protective power of any glycerinated virus until he had followed it up with a point to make sure the subject had been rendered thoroughly immune to vaccination.

108.—See abstract in THE JOURNAL of July 13, p. 138.

109.—Ibid., p. 137.

111. **Pyemia.**—The cases of septic pyemia occurring early this year in Colorado and reported by Hall suggest bubonic plague in some of their symptoms and are of interest on that account. He has collected together 14 cases, 2 of which occurred in Chinamen and in connection with the existence of plague in California at the time caused some uneasiness. The occurrence of so many isolated cases of septico-pyemia within a few weeks in adults of previous good health was certainly unusual. His own opinion as to their existence is that many originated, as some certainly did, from a streptococcic sore throat, possibly not severe enough to attract much attention. He refers also to 2 cases of pneumonia accompanied with sepsis, which were fatal. The majority of the patients with abscess recovered; in many there was no bacterial examination made. In a few where they were made, a pure streptococcus infection was found.

116. **Nose and Throat in Chest Diseases.**—The object of Scheppegrell's paper is to emphasize the fact that the abnormalities of nasal respiration is due to partial or total destruction, atrophy, or other disease of the nasal cavities, may develop irritation of the lower respiratory organs. Therefore, in treating diseases of the chest, the possibility of irritation due to disturbance of the upper respiratory passages should not be overlooked, and no case of bronchitis or asthma should be considered incurable unless the nose and throat have been examined and abnormal conditions corrected, if possible. Often this examination, if made at all, is delayed until secondary changes have taken place, making cure no longer possible, but still some relief may be hoped for under proper management.

118. **Chloroform and Nitrite of Amyl.**—McIlhenny, on Senn's suggestion, started the use of nitrite of amyl, 1 dram, to a pound of chloroform in anesthesia, and the result was excellent. Nitrite of amyl acts as a decided check-rein to the chloroform, especially as to its effect on the circulation and respiration. It seems to modify the ill effects without interfering with its anesthetic properties. The stage of stimulation is much modified, the face does not become flushed, breathing is not labored or rapid, the stage of depression is often absent, the heart beats regular and strong. The pupils will be very misleading to a person giving nitrite of amyl with chloroform for the first time, for it requires very close attention to notice their response to light. Vomiting is very rare. The patient usually recovers consciousness very rapidly and there is no headache or fulness of the head as might be expected. The urinary secretion is increased, but contains no sugar or albumin. The body temperature is somewhat lower. From his experience he would greatly prefer this combination to chloroform alone.

129. **Uncinariosis.**—This term, which is applied by Stiles to the condition called anklostomiasis, is described as it occurs in man. A case is reported, showing that it exists in Virginia and he also had cases sent to him for confirmatory diagnosis from Ohio and the Rocky Mountain region, in which the condition was simulated by plant fibers. There is only one way in which it can be positively diagnosed, viz., by examination of the feces, but in this way its recognition is easy, and no special technique is necessary. The use of a moderately high power microscope will show eggs, though we must be careful not to mistake the eggs of ascaris for those of uncinaria, or those of oxyuris. The ascaris eggs have a thick gelatinous, often mammillated, covering and those of oxyuris have a thick asymmetrical shell, one side being almost straight. The whip-worm type, trichocephalus, possesses a smooth thick shell apparently perforated at each pole, and unsegmented protoplasm. The eggs of uncinaria are elongated ovals with thin shell and protoplasm either unsegmented or in the early stages of segmentation. Gross examination of the feces where the microscope is impracticable can be made by washing the stools thoroughly in a bucket and examining the sediment for worms about an inch long, about as thick as a hairpin or hatpin, with one end curved back to form a hook. The most commonly used drugs for treatment are thymol and male fern. The stools should be disinfected with quicklime. He describes the life history of the parasite, its zoological characteristics, the means in which it injures by biting the intestinal walls and also gives the different species found in different animals, the uncinaria duodenalis being the human parasite.

135.—This article appeared in THE JOURNAL, XXXVI, p. 1599.

136.—Ibid., p. 1606.

137.—Ibid., p. 1611.

FOREIGN.

British Medical Journal, August 10.

Plague and Its Prevention as a Disease Communicable from Animal to Man. DAVID SAMUEL DAVIES.—The published articles on plague were barren of interest to the epidemiologist, according to Davies, until Cantlie suggested that the endemicity of the disorder in certain ports of Central Asia, as it coincided with the distribution of a particular subfamily of rats, was possibly in causal relation with a definite rat habitat. Evidence rapidly accumulated, ultimately culminating in our present knowledge that plague is primarily an epizootic disease communicable to man rather than an epidemic disease communicable to animals. The records of the Sydney outbreak of plague may be taken as a typical manifestation of the introduction of plague epizootic amongst a wholly civilized white population. The following facts stand forth: "I. The disease did not spread by person-to-person infection. 2. The observed facts as to its spread can only be satisfactorily explained by assuming an animated host, not human, to diffuse the infection in place, and a second host to communicate the infection to man; the two hosts are the rat and the flea. 3. 'Contact' in regard to plague infection does not necessarily mean one who has lately been associated with a plague patient; it means rather one who has been exposed in more or less close association with plague rats within five days. 4. Nearly all the cases were bubonic in type, a type very little infectious. 5. The outbreak originated in connection with a wharf, almost certainly through the handling of plague rats from infected ports; and the history of further infection in the town pointed definitely to the same means of distribution." Davies remarks that the importance of rats need hardly be questioned or dilated upon in the spread of plague. He asks, are our present regulations sufficient to prevent the introduction of plague, or, in other words, are the means accurately adapted to its etiology? It is a great blunder to treat pestilence uniformly. The present local government regulations in England against cholera, yellow fever and plague are practically transcripts of the former regulations against cholera, to the circumstances of which purely human disease they are excellently adapted. Up to the spring of 1901 no further official instructions regarding

plague were issued. He calls attention to the fact that the port of Bristol found itself in a peculiar position in the beginning of the present year. A grain vessel arrived from an infected port with no history of illness, and, therefore, not infected under the regulations or liable to any detention or supervision. For some months special precautions as to off-mooring of vessels from the quayside, disc-guarding of ropes, up-lifting of gangways, and day and night watchmen had been enforced as stringently as the absence of special powers would permit, and careful watch was kept. Thirteen dead rats were found in the forehold and plague as the cause of death certified, but not until the cargo had been partly discharged and distributed. The ship was dealt with as an infected ship and 226 rats were destroyed. He says to bring infected rats to a port in unlimited numbers and then rely on attempts to prevent them coming ashore is obviously taking the evil at the wrong end. It is impossible to destroy all rats on a loaded ship, while it is not difficult to practically do this in an empty one. The best policy, therefore, is to secure rat-free merchant ships, and the author asks: Is this practicable? Dr. Ashburton Thompson suggests that if vessels which engage in coasting voyages, lasting three weeks to a month, are fumigated at the point of departure before loading and at the ultimate ports touched on the voyage, few if any rats are discovered to remain, and this statement applies to steam vessels of various tonnages up to 4000. This method has been carried out, he says, under intercolonial agreement requiring a vessel to produce a certificate of fumigation, without which they are subject to detention. The method, therefore, is practicable. Davies says it is high time our knowledge of the etiology of plague be utilized in international as well as in other traffic and the rats must be destroyed before loading the ship.

The Lancet, August 10.

Mortality from Phthisis and Tuberculous Diseases Considered in Some Aspects Which May Be Demonstrated by Means of Life Tables. T. E. HAYWARD.—The author publishes and discusses tables showing the total expectancy of life under various aspects, and the difference produced by excluding phthisis as a cause of mortality. He also gives tables showing the total life capital of England and Wales for the middle of the year 1891, and to what extent this life capital would have been increased by, 1, eliminating phthisis, and 2, by doing away with all other tuberculous disease as a cause of mortality. He finds that the average period of working life would be lengthened on the average by very nearly two years. The years of human life are now capable of being translated into terms of money; it is evident that the ravages of phthisis may entail a very serious financial loss to the community. He admits that this work is not that of a physician, but he leaves it to the actuaries to measure this and suggests to those concerned in the management of industrial and other life assurance societies that it might be an act of profit to them to subscribe something toward the establishment and management of sanatoriums for the treatment of phthisis.

On the Physiologic Cure of the Morphia Habit. W. OSCAR JENNINGS.—The author claims that before the publication of his little work in 1890 there existed no treatment of the morphin craving founded on therapeutic indications. His first observations were made in his own case and he has had opportunity of verifying these during the last ten years. He remarks that there are many persons who lack the will power to carry out the treatment alone. There are others who want to get well and have no real craving that prevents them, but are suffering from hysteric neuro-mimetic craving. In these cases great tact is necessary. Such patients should never know how much morphin they are taking or what other agents are being administered. The symptoms, though really distressing, are entirely ideal. If a patient is seriously desirous of giving up, he should commence by renouncing all liberty of action during the treatment, give up his syringe and his solution and be guarded against all temptation. When the morphin is associated with some other addiction, the first thing is to suppress the other stimulant, whatever it may be. This is not difficult if it be alcohol or cocain. The quantity of morphin taken becomes more satisfactory instead of being antidoted, as it were, by the other stimulant when they were taken together. Jennings believes in the gradual reduction as slowly as is necessary to effect a cure without distress. It is desirable first to bring about a change as soon as possible in the mode of administration of the drug. If this can be effected early, so much the better; but there should be a gradual substitution of the rectal for the hypodermic injection the moment the patient is reduced to 2 grains by the skin. Two grains would seem to be the vital requirement; above 2 grains morphin can be found in the urine; below this it seems to be assimilated. From this point onward twice as much should be given by the rectum as by the skin. The great point is to get rid of the syringe, to wean the patient from his accustomed stimulant. Moreover, an injection by the rectum is not agreeable and has not the fascination that leads to the constant use of the syringe. The patient is satisfied with what is really required to prevent discomfort. In giving morphin it should be remembered that this is not a sedative but a stimulant, the withdrawal of which causes a suppression of vital force and gives rise to general functional disturbance greater than would result from the privation of other stimulants. The utility of heart tonics is evident. The next great factor of craving is hyperacidity of the stomach and organs generally. This suggests the administration of bicarbonate of soda, a method to which he has been calling attention for thirteen years and the importance of which is now recognized by every writer. Bicarbonate relieves craving so far as it is caused by over-acidity in the same way that heart tonics relieve it when caused by cardiac sluggishness and nothing more. Other means of relief may be supplied as indicated, but the third of his therapeutic triad is the hot-air bath. The effect of the bath is largely due to its tonic and sedative action, but it may also act as an eliminator of some excitant of craving. This may possibly be the oxi-di-morphin which is formed in the body and is considered by Marmé as its chief cause. He insists on the non-alcoholic régime. There must be no reading in bed during the progressive reduction. For insomnia, cerebral galvanization is sometimes magical, but if unsuccessful the best hypnotic is trional. The fluid extract of coca and kola are frequently of use and the only other drug taken constantly by his patients is valerianate of ammonia. He warns against the synthetic derivatives of morphia, such as dionin and heroin, which can get up a worse condition than morphin itself. The latter is only second to cocain as a drug to be avoided. It has been said that ex-morphin habitués are subject to periodical periods of craving, and these are more likely to occur in those who have undergone the slow reduction. These are errors. One of the best proofs of the progressive plan is that when properly carried out the patients gain in weight. One of the consequences of this, however, is a tendency to hyperchlorhydria and excessive uric acid, both of which are factors of craving. Besides this the ex-habitué is generally polydipsic and boulimic and does not restrain his appetite, drinks of alcoholics and eats in proportion. As he is easily tired, he has a disinclination to be active. He is nearly always saturated with uric acid and on the verge of bilious or gastric failure. This is the cause of what is called after-cravings. We must always remember that every morbid sensation during the past addiction having been treated with morphin, every malaise in the future will suggest it. The best proof that these are not real cravings is the result of treatment, for after being properly treated the cravings will disappear. When the ex-habitué is careful to lead an abstemious life he is not liable to such cravings. Everything should be done to keep up a healthy tone of the system, taking exercise as much as possible without fatigue; the regular use of Turkish baths is also specified. The remainder of his paper consists in an account of cases illustrating the different phases and forms of the condition and the results of special treatment.

Electrolytic Transmission of Sulphur Through Pig's Skin, and Its Therapeutic Value in Eczema, Gout, etc. FRANCIS WILLIAM SMITH.—Smith has experimented on pig's

skin and found that sulphur can be driven through this substance from Harrogate sulphur water by electricity. The therapeutic value of this treatment is in its connection or use of the electric current with the baths. The fact that many cases of long-standing eczema have been benefited under the method would justify this treatment.

Bulletin de l'Academie de Med. (Paris), July 23.

Preparalytic Hemichorea. BOINET.—Bechtereff has recently published the case-report of a man of 68, suddenly seized with left hemichorea, subsequent to a violent emotion. He died fifteen days later with symptoms of paralysis of the heart. The autopsy disclosed a circumscribed hemorrhagic focus in the posterior portion of the optic layer. Boinet describes a case in which a sudden hemichorea appeared, followed by atrophy of the muscles of the left arm and leg, with corresponding facial asymmetry. In a second case, hemiathetosis and hemichorea coincided with the atrophy of the muscles, deviation of the tongue and facial asymmetry on the side affected. He has also witnessed a case of rhythmic hemichorea in a patient with general paralysis. He attributes this preparalytic or postparalytic hemi-athetosis or hemichorea to an interruption of the conductors connecting the central ganglia with the cerebellum—the route traversed including the superior peduncle of the cerebellum, the red nucleus, the optic layer, the internal capsule and the anterior portion of the lenticular nucleus.

Tuberculous Rheumatism. A. PONCET.—Three cases are described which presented the clinical picture of acute articular rheumatism. Bacteriologic investigation disclosed the tubercle bacillus, and inoculations of guinea-pigs confirmed the tuberculous nature of the arthritis. Poncet proposes the term "pseudo-rheumatism of bacillary origin" for the affection.

July 30.

Treatment of Chorea by Immobilization. HUYGHE.—The method of treatment described is a sort of auto-suggestion, and has proved invariably successful in an extensive experience. The patient is given a little chloroform—not enough to anesthetize—the limbs are massaged vigorously and placed in splints, immobilizing them for five or six days. If the slightest choreic movements are noted after this interval, the treatment is recommenced. The patient is all the time under the influence of auto-suggestion. He no longer sees his limbs, and forgets to move them. The treatment is entirely harmless and can be applied to all varieties of cases and in all kinds of surroundings.

Latent Cardiopathy and Sudden Death. KELSCH.—Cases may occur anywhere, but they are best studied in the army in which all the factors, both of cause and aggravation, are magnified. Kelsch has collected thirty cases of these non-rheumatic cardiopathies, developing without symptoms, and revealed only at death, which is precipitated by some extra exertion or excitement. The original cause is some poisonous influence—in which alcohol takes the lead—or the results of infection—diphtheria, typhoid fever, la grippe or an eruptive disease—or the rudimentary lesion may be the result of intoxication from infectious products. Overexertion or excesses of any kind, start these latent rudimentary lesions into an evolution which progresses insidiously to the fatal termination.

Centralblatt f. Chirurgie (Leipsic), July 27.

Hints for Cystoscopy. S. GOLDBERG.—Olive oil is better than glycerin to lubricate the tip and angle of the cystoscope. Neither cocain nor chloroform are so effective for anesthetizing the bladder in certain cases as 50 c.c. of a 5 per cent. solution of antipyrin, left for ten to twenty minutes, and then washed out before the introduction of the cystoscope.

Extirpation of the Appendix Between Attacks. M. JAFFE.—In certain cases of appendicitis, the process may develop without much disturbance, but may leave adhesions, infiltrations and cicatricial formations from perforation, of the appendix into the cecum, or a similar lesion. Instead of the vain search after the appendix in such cases, Jaffe recommends resection of the portion of the intestine involved, and in case of stenosis, enteroanastomosis.

Deutsche Med. Wochenschrift (Berlin and Leipsic), July 25.

Therapeutic Application of External Palpation of the Rectum. W. EBSTEIN.—Palpation of the rectum through the gluteal groove almost invariably reveals that it is filled with accumulated fecal matters. By massaging from above downward it is possible to expel these contents, and the massage strengthens the muscular action of the rectal walls. The massage can be done by the individual himself, and will be found a useful therapeutic measure in case of stagnation and torpid muscles.

Multiple Hemorrhages of Face and Conjunctivae. HOPPE.—A sudden pressure on the thorax has been known to induce multiple hemorrhages in the face and conjunctivæ. The phenomenon was consecutive to trauma in the nine cases on record, but Hoppe observed a case in which it followed violent retching. The patient, a man of 35, had eaten mushrooms and fearing that they were poisonous, tried to vomit them by tickling his throat and retching. All the cases were distinguished by the swollen cyanotic aspect of the face, and the numerous hemorrhages, mostly petechial, with transient disturbance of sight.

August 1 and 8.

Acromegalia. A. FRAENKEL.—Four cases of acromegalia are described with the postmortem findings. Nothing was found peculiar to the disease in any organ, except a tumor in the hypophysis in each case. The tissue of the tumor showed alveoles with granulated cells and free vascular ramifications, evidently derived from the epithelial elements of the anterior lobe. In one case, the cells were almost exclusively free from granulations, with many polynuclear and round cells. The posterior lobe of the hypophysis was intact in all four cases. The hereditary character of acromegalia was evident in one case. One was not the complete type of acromegalia, but seemed rather a transition between this and gigantism.

Disturbances in Heart Action Not Due to Organic Troubles. T. RUMPF.—Several cases have come under Rumpf's observation, of disturbances in heart action noticed after considerable loss in weight from a course of treatment for obesity. He gives illustrations of the most severe case of this kind, showing that the apex changed its position by 1.3 cm., according as the young man lay on the right or left side or stood erect. The loss of the fat in the abdominal cavity after the weight had dropped from 238 to 153 pounds, evidently caused the previously stretched diaphragm to sag, and this allowed the displacement of the heart. The symptoms indicated cardiac insufficiency, but Rumpf advised the patient to cultivate his former obesity, which he did, with the complete disappearance of the heart disturbances, as confirmed by an examination thirteen years later. Rumpf has also observed two cases, simulating cardiac insufficiency in the symptoms after a hearty meal, or after eating certain foods, but vanishing as the stomach became empty. The troubles are due in such cases to the mechanical interference with the heart's action by the diaphragm distended by gases in the stomach. The cases described were observed for twelve years and no signs of cardiac insufficiency beyond the functional disturbances have developed. The heart disturbances may be of a reflex nature. The pulse may be accelerated, irregular or interrupted, or may show a second systole with no complete diastole. He calls attention to the variations in the heart action after eating and warm baths, observing that this physiologic variation is sometimes accepted as the result of treatment at a health-resort.

Muenchener Med. Wochenschrift, August 6.

Further Research on the Globulites. H. BUCHNER.—The results of further study of the globulites described in THE JOURNAL of August 17, p. 480, show that they are composed of barium sulphate. The barium is evidently derived from the peptone, while the sulphate is a product of the leucocytes themselves. The tests also demonstrated that any albumin or albuminoid substance from one species of animal attracts the leucocytes in another species with a specific

"Lockreiz," that is, acts as a stimulus to their local accumulation.

Injuries of the Vessels of the Root of the Mesentery. WILMS.—On the basis of two clinical cases and experimental tests, Wilms asserts that the superior mesenteric vein can be ligated below the pancreas without resulting gangrene of the intestine. It is dangerous to ligate it above the pancreas, where it merges into the portal vein.

Duplicity of Protopathic, Malignant Tumors. R. L. GRUENFELD.—Eight cases of the simultaneous occurrence of two varieties of malignant neoplasms are reviewed and a case personally observed is described. In Becker's case a melanosarcoma of the cheek and cancroid of the eye and ear appeared after extirpation of a rodent ulcer on the nose. In Niebergall's case a carcinoma, a fibro-sarcoma, a myoma and some polypi were found in one uterus. In Kretz's, an endothelioma of the dura mater coincided with a carcinoma of the esophagus. Other cases were those of a lipomyo-sarcoma in each kidney, associated with a psammoma in the brain and a carcinoma in the stomach; a carcinoma in the pancreas with multiple angio-sarcomata in the liver, and a case of round-celled sarcoma and diffuse adeno-carcinomatous proliferation in the same uterus. There are nearly a dozen cases on record of double carcinomata or other malignant tumor, including Albert's case in which both breasts were the seat of primary carcinomata; Carriere's with symmetrical epithelioma in each kidney, and Bucher's with a primary carcinoma in the right breast, six years after the extirpation of a similar tumor in the left. In the new case reported by Gruenfeld, a diffuse, infiltrating carcinoma of the rectum coexisted with an endothelioma originating in the posterior lobe of the hypophysis cerebri or in the adjacent dura mater—it was impossible to determine which. No clinical symptoms had been observed during life suggesting acromegalia or other probable consequences of a tumor in the hypophysis. Heusser has described a somewhat similar case in which a carcinoma of the rectum coincided with an undiagnosed lymphosarcoma in the hypophysis. Köhler found 8 sarcomata among 37 cases of tumor of the hypophysis, but none resembling an endothelioma.

Treatment of Motor Aphasia. VIDAL.—There are few fields more promising than the treatment of motor aphasia, especially when the memory is retained. The chief point in treatment is exercising the patient in the pronunciation of the words or syllables in which he is defective. It is important to study first, the sounds which he finds most difficult to pronounce. In one case it is the vowels, in another the labials, and so on. He must be trained to watch the lips of the speaker, and to watch his own lips with a hand glass. Gutzmann recommends teaching the patients to write with the left hand, as a means of educating a new, right speech center. Vidal, however, considers this too much of an effort for a patient past youth. The chief difficulty he has encountered in curing motor aphasia, is that occasionally mental effort causes headache, on account of the preceding apoplexy.

Wiener Klin. Wochenschrift, August 1.

Elimination of Chloroform from the Respiratory Organs. K. BUEDINGER.—In the tests reported in this communication, the elimination of chloroform continued for several days after the anesthesia. The chloroform clings to the sputa for days, and consequently its irritating effect is not restricted to the time of the narcosis, but persists long after. In persons with much mucous secretions, the chloroform is eliminated less rapidly, as it evidently combines with the phlegm and this may be a factor in the nausea and vomiting. It is evident that the removal of all accessible mucous secretions is indicated in all cases of protracted chloroform narcosis.

New Points in Skiagraphy. G. KAISER.—The rays are collected in a lead funnel which thus concentrates their action on the spot desired. Kaiser also states that he uses tubes made of red or blue glass, and finds that no symptoms of irritation have followed, no matter how long the exposure or how intense the light, since he began using these colored tubes.

Klinitchesky Journal (Moscow), May.

Clinical Significance of Myoidema in Cerebral Affections. HANNOUCHKINE.—In 84.8 per cent. of 355 cases of various cerebral affections examined at Moscow, myoidema was noted, pronounced in 73.8 per cent. and slight in 11. It is not pathognomonic of any special disease, as it was encountered in 57 to 100 per cent. of the 22 different kinds of cerebral affections investigated—constantly in the 11 cases of epilepsy and 11 of delirium tremens.

June.

Anatomy of Atrophy of the Intestines. P. KUSSKOW.—Examination of the intestines in infant cadavers, rabbits and kittens, has convinced Kusskow that others have been mistaken in their descriptions of some of the alterations noted in atrophy of the intestines in nurslings. The anatomic picture that Nothnagel and others have described is, in reality, merely the effect of putrefactive processes, chiefly due to distension of the intestines. No reliability can be placed on signs of atrophy except in undistended portions of fresh intestines. In the distended portions, the alterations can be attributed to atrophy only in the absence of destructive processes from distension and in case the lesser number of glands and orifices of the follicles fails to correspond with the extra thinness of the tense mucous membrane.

Vratch (St. Petersburg), June 1 and 8.

Early Diagnosis of Tubercular Peritonitis in Children. A. A. KISSEL.—A large number of cases are described in detail out of Kissel's personal experience of fifty-four little patients with tubercular peritonitis. He states that it occurs far more frequently than is generally recognized. In fact, he asserts that almost all the cases of so-called spontaneous abdominal dropsy are in reality nothing but tubercular peritonitis. It may commence with a stormy onset, but in the vast majority of cases it develops insidiously and the family notice merely that the child is growing thin and pale. Under general tonic treatment the effusion may be absorbed and the child restored to perfect health. The diagnosis is aided by the discovery of simultaneous pleuritis with effusion. The most important sign is the thickening of the layers of the peritoneum observed when a fold is pinched up between the fingers—never found in a non-tubercular affection. Even in the absence of any objective manifestations and in apparent health, a thick growth of more or less recent tubercular masses may be palpated in this way on the surface of the peritoneum. The ascitic fluid is very rich in albumin and has a high specific gravity. The diagnosis is most difficult in the rare cases in which a chronic ascites coincides with a tubercular pericarditis.

June 15.

Tuberculosis of the Lymphatic Glands. B. K. FINKELSTEIN.—Ten years' study of this subject with 456 patients, has convinced Finkelstein that tuberculosis of the lymphatic glands is the preliminary to very serious affections. The appearance of small tumors in the glands is an indication of an approaching serious affection. General treatment is sufficient to cure tuberculosis of the glands in the first stage, but in all other stages, operative treatment alone affords favorable results. Injections of arsenic, tuberculin, zinc chlorid and silver nitrate merely hasten the destruction of the gland. The most effective local measure is the application of heat. General treatment and good sanitary surroundings are indispensable to prevent recurrences. In his experience, 7 patients were under 10; 329 or 72.1 per cent. between 10 and 20; 97 under 30; 18 under 40; 3 between 40 and 50, and 2 between 50 and 60. Out of the 201 operated on he has been able to trace only 9 for one to five years after the operation, who have nothing left of the lesion but a linear scar. Recurrence has been known to occur in 43, but the majority of the operated patients have been lost sight of. The wretched hygienic environment of most of the patients has undoubtedly nullified the surgeon's efforts in many more cases than these.

Application of Psychotherapy to Children. R. A. PETERS.—This communication describes a number of cures

of hysteric affections, incontinence of urine and other neuroses in children between 8 and 15, by suggestion in hypnosis. Peters calls attention to the difference between hypnosis in children and in adults, considering the former essentially different from the latter. In only three out of forty children thus treated was he able to induce the hypnotic sleep as in adults, without verbal suggestion, leading to catalepsy, lethargy and somnambulism. These three were girls of 12 to 14 with chronic hysteria. In all the others, the hypnotizing measures had to be accompanied by verbal suggestion for each stage of the process. The sleep induced was light; somnambulism could be induced, but never catalepsy or lethargy. The awakening is different also. The usual measures, blowing in the face, etc., only caused the children to shut their eyes more tightly and never aroused them, unless accompanied by the verbal command to wake up. This pseudo-hypnotic sleep can be induced in healthy children as readily as in the nervously predisposed, and it is never accompanied by any unpleasant sensations.

June 29.

Streptococcus in Articular Rheumatism. V. E. PREDTETCHENSKY.—Pure cultures of the streptococcus were derived by this writer from the blood in two out of five cases of typical acute articular rheumatism. The cultures inoculated into animals reproduced a joint affection resembling in every respect the affection in man whence they were derived.

July 6 and 13.

Histologic Changes in the Puerperal Uterus in Streptococcus Infection. I. J. KLITINE.—A long series of experimental researches are reported with the histology of the uteri of gravid rabbits inoculated with cultures of the streptococcus in various ways, sometimes in the mucosa of the vagina, sometimes in the cornu of the uterus or directly into the blood. Marked histologic alterations were observed in every case in the rabbits submitted to this acute streptococcus infection, alike in all cases. The administration of antistreptococcus serum, however, attenuated or entirely prevented these histologic changes. The serum evidently affects the cellular elements in such a way as to diminish the toxic action of the streptococcus. All the animals inoculated at the time the litter was cast, and then treated with the serum, invariably survived the control animals.

Differentiation of Diphtheria Bacilli. I. A. SHABAD.—The combined association of pseudo-diphtheria bacilli and of virulent and non-virulent bacilli in varying proportions, has been a fruitful source of error in their differentiation. The specific reaction of these different kinds of bacilli, however, to Neisser's stain is a constant and reliable means of differentiating them in bouillon cultures.

Etiology and Serum Treatment of Malignant Neoplasms. G. M. VLAEFF.—Blastomycetes derived from carcinomata in man have induced neoplasms with the characteristics of malignancy in animals, and Vlaeff has succeeded in producing an antiserum by repeated inoculation of these micro-organisms in geese and she asses. THE JOURNAL has already mentioned some of his experiences. He is convinced that all malignant neoplasms are essentially of the same nature, and that the variety observed is due to the special reaction of the tissues of the individual, the site of the tumor, the age, etc. He has seen instances of the simultaneous occurrence of sarcoma and carcinoma in the same patient. He states that with the antiserum derived by repeated inoculations of blastomycetes—saccharomyces hominis—during the course of a year, it is possible to cure a malignant neoplasm in an animal if—and this is the important condition—the neoplasm is still localized, with no metastases. At a later stage, the life of the animal is prolonged, an inoperable tumor rendered operable in many cases, but the affection continues a retarded course unless the neoplasm is extirpated in time. These experiences have been confirmed in every respect in the clinics. He has now an experience of sixty patients thus treated, and describes several cases in detail. Those with a strictly localized tumor, without mestatases in the glands or elsewhere, were improved to such an extent that they can be called cured, all regaining their former weight.

In one case after the tumor had been growing for seven months, the patient was treated with 13 injections of 10 c.c. of the serum in the course of nearly six months. She gained 8 pounds in weight and the tumor retrogressed to such an extent that the surgeons were skeptical in regard to its malignant nature. The remains of the tumor were therefore excised and examined by four Paris clinicians besides Vlaeff, including Brault and Cornil, and all confirmed the assertion that it was a typical, cylindrical-celled carcinoma. The patient has been in perfect health since, now more than a year. She is now 45 years old. In several cases of inoperable recurring malignant growths in the large intestine, the general health was remarkably improved and patients restored to comparative health. He concludes his communication by reiterating that in animals it is possible to completely cure if treatment is commenced before the formation of metastases, and his clinical experiences indicate that the same is true of man.

July 20.

Six Cases of Rupture of the Uterus. V. N. ORLOFF.—The pelvis was somewhat smaller than usual in each of the 2 cases of incomplete, and 4 of complete rupture of the uterus described in this communication. Two of the latter group died. The fetus was of normal size and weight in each case. Labor had lasted from twenty-nine to forty hours, except in one case in which delivery occurred in eighteen hours. The patients were all multiparæ. In 820 cases Orloff has collected from the literature, the mortality ranged between 55 and 75 per cent. The results vary in proportion to the condition of the patient and the extent of infection, rather than according to the method of treatment selected. Klein's statistics show good results from tamponing, drainage or mere irrigation. In 77 cases of complete rupture of the uterus, 75 per cent. of 28 patients recovered after drainage; 44 per cent. of 46 patients recovered after tamponing, and 50 per cent. of 10 patients with irrigation. In 35 cases of incomplete rupture 100 per cent. of 9 patients recovered after drainage; 50 per cent. of 20 patients after tamponing, and 50 per cent. of 6 patients after simple irrigation. Tamponing is indicated when the hemorrhage persists after delivery; and drainage when a purulent discharge appears several days afterward, especially in case of incomplete rupture. In the absence of hemorrhage and discharge, irrigation is indicated. In Orloff's cases of complete rupture of the uterus, laparotomy was done in 3, but the uterus was not removed in any case. The rent in the two incomplete ruptures extended from the wall of the cervix, commencing at the vaginal portion, to the point of attachment of the broad ligament, where the placenta was adherent. Both these patients recovered with merely vaginal irrigation. In the first case of complete rupture, the rent extended through the left wall of the uterus, and the fetus and placenta had escaped into the abdominal cavity. The uterus was tamponed with iodoform gauze, and laparotomy postponed on account of the weakness of pulse, etc., and the absence of hemorrhage. Symptoms of peritonitis developed, which proved fatal in five days. The rent in the second case extended through the left wall of the uterus and into the left broad ligament, following a tortuous course. The fetus was found in the abdominal cavity. The rupture was sutured through a laparotomy and patient recovered. In the third, the rent started in the anterior wall of the cervix and included the peritoneum, right broad ligament and vesico-uterine pouch, but the fetus had remained in the uterus. The laceration in the cervix was sutured through the vagina, and the broad ligaments, etc., through a laparotomy incision. The patient died eight days later from peritonitis. In the fourth case the cervix was but slightly lacerated, and the rupture chiefly involved the anterior cul-de-sac, the peritoneum of the vesico-uterine pouch and both broad ligaments throughout their entire extent. The fetus had not escaped from the uterus. The cervix was not sutured, but the broad ligaments, etc., were sutured through a laparotomy incision and patient recovered.

Queries and Minor Notes.

MEDICAL PRACTICE ACT.

LAKESIDE PARK, STATELINE P. O., CAL., Aug. 17.

To the Editor:—Will you please state the requirements for the practice of medicine in Montana? M. B.

ANS.—The requirements of Montana are the passage of a satisfactory examination and that the applicant should present evidence of having attended four courses of lectures of at least six months each, if he has graduated subsequent to 1898. Application for circulars, etc., should be made to the secretary, W. C. Riddell, M.D., Helena, Mont.

DR. GOETSCH ON TUBERCULIN.

MANSFIELD, OHIO, Aug. 17, 1901.

To the Editor:—The July 6 issue of THE JOURNAL gives a notice of Dr. Goetsch's paper on tuberculin; it is very important. Can you not give the paper in full? I assure you tuberculin in conjunction with outdoor life is the most promising treatment at our command for tuberculosis. If you can not publish it in full, will you inform me if it has been published in English, and where I can procure it? A. J. E.

ANS.—We do not know of any English translation of the paper mentioned.

NAMES OF SECRETARIES WANTED.

CANTON, N. Y., Aug. 24, 1901.

To the Editor:—Will you kindly give me the address of the secretaries of the state medical examining boards of Michigan and Wisconsin? W. H. G.

ANS.—B. D. Harison, M.D., Sault Ste. Marie, Mich., and H. M. Ludwig, M.D., Richland Center, Wis.

CELLOIDIN THREAD.

NASHUA, N. Y., Aug. 24, 1901.

To the Editor:—In reading the last number of THE JOURNAL my attention was attracted by the experience of Dr. A. Hammesfahn in simplifying suture process by using celloidin thread. In looking up the literature, I find no data on that kind of suture. Please tell me where I could procure some of that material, and oblige.

A. G.

ANS.—We do not know where this can be obtained in this country, but Pagenstecher's celluloid thread is probably the same thing; its advantages are reported on by Drs. Keen and Rosenberger, whose article was published in the *Philadelphia Medical Journal*, of March 10, 1900, and abstracted in THE JOURNAL, March 24, 1900, p. 741.

New Patents.

680,122. Apparatus for vaporizing medicinal agents. Erasmus T. Camp, Gadsden, Ala.

679,890. Apparatus for measuring errors of refraction. Louis L. Ferguson, New York City.

679,980. Bandaging table. Benjamin G. Miller, Cumberland, Md.

679,993. Adjustable adhesive supporting plaster or bandage. John G. Ross and H. M. Taggart, Philadelphia.

679,784. Exercising machine. Michael B. Ryan, London, Eng.

686,179. Toilet-disinfecting apparatus. Leon C. Schoneman, New York City.

679,918. Shield for wounds. Edward C. Shears, Lakota, N. D.

679,802. Operating table. Thomas M. Vaughan, Mattoon, Ill.

679,925. Artificial ear-drum. Laura H. Vickers, West Philadelphia, Pa.

680,384. Fumigating and disinfecting. Charles T. Kingzett, Chiselhurst, Eng.

680,436. Shoulder-blade extractor. Elmer P. Nichols, Stamford, Conn.

680,556. Exerciser. Henry W. Wieland, London, Eng.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Aug. 8 to 14, 1901, inclusive:

Dallas Bache, colonel, assistant surgeon-general, sick leave extended.

James L. Bevans, contract surgeon, now at San Francisco, Cal., is relieved from further duty in the Department of Alaska, and assigned to duty in the Department of California.

William C. Borden, major and surgeon, U. S. A., leave of absence extended.

Henry F. Hoyt, major and surgeon, U. S. Vols., leave of absence extended.

John S. Kulp, captain and asst.-surgeon, U. S. A., detailed a member of an examining board in New York City and at Governor's Island, N. Y., during the temporary absence of Lieut. Allie W. Williams, asst.-surgeon, U. S. A.

Herbert G. Shaw, lieutenant and asst.-surgeon, U. S. A., member of an examining board at San Francisco, Cal., vice William M. Roberts, lieutenant and asst-surgeon, U. S. A., relieved.

Louis A Thompson, contract surgeon, now at San Francisco, Cal., will proceed to Washington, D. C., and report to the surgeon-general for instructions.

Samuel M. Waterhouse, lieutenant and asst.-surgeon, U. S. A., previous orders directing him to proceed to San Francisco, Cal., en route to the Division of the Philippines, revoked.

J. Samuel White, contract surgeon, previous orders revoked. This revocation appears to leave him as relieved from duty at the General Hospital, Presidio of San Francisco, Cal., and under orders to proceed to Fort Gibbon, Alaska, for duty.

Navy Changes.

Changes in the Medical Corps of the Navy, week ended Aug. 17, 1901:

Medical Inspector F. Rogers, detached from the *Brooklyn* and ordered home.

Surgeon J. E. Gardner, detached from the Naval Hospital, Cavite, P. I., and ordered to the *Brooklyn*, temporarily.

P. A. Surgeon M. S. Elliott, detached from the *Annapolis*, and ordered to the *Kentucky*.

P. A. Surgeon E. M. Shipp, ordered to the Cavite Naval Station.

Asst.-Surgeon W. H. Ulsh, detached from the *Glacier* and ordered to the *Annapolis*.

Asst.-Surgeon W. E. G. High, detached from the *Kentucky* and ordered to the *Glacier*.

Asst.-Surgeon J. T. Kennedy, detached from the Marine Brigade, and ordered to the *Brooklyn*.

Asst.-Surgeon H. E. Odell, detached from the Naval Hospital, Cavite, and to duty with the Marine Brigade.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Aug. 15, 1901:

P. A. Surgeon H. D. Geddings, granted leave of absence for one month and fifteen days from August 15.

P. A. Surgeon C. H. Gardner, granted leave of absence for fourteen days from August 17.

Asst.-Surgeon S. B. Grubbs, granted leave of absence for three days from August 12.

Asst.-Surgeon J. F. Anderson, relieved from duty at Liverpool, England, and directed to proceed to New York City, and await orders.

Asst.-Surgeon C. H. D. Lord, granted leave of absence for seven days under paragraph 178 of the Regulations.

A. A. Surgeon B. W. Goldsborough, granted leave of absence for seven days from August 11. Granted leave of absence for twenty-one days from September 5.

A. A. Surgeon R. S. Primrose, granted leave of absence, on account of sickness, for 21 days from August 10.

A. A. Surgeon S. D. Robbins, granted leave of absence for thirty days from August 5.

Hospital Steward F. R. Hanrath, granted leave of absence for ten days from August 12.

Hospital Steward M. Walerius, granted leave of absence, on account of sickness, for twenty-three days from August 8.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Aug. 17, 1901:

SMALLPOX—UNITED STATES.

Kansas: Wichita, July 27-Aug. 3, 1 case.
New Hampshire: Nashua, July 27-Aug. 3, 2 cases.
New Jersey: Newark, Aug. 3-10, 4 cases, 1 death.
New York: New York, Aug. 3-10, 36 cases, 13 deaths.
Ohio: Cleveland, Aug. 3-10, 1 case.
Pennsylvania: Philadelphia, Aug. 3-10, 8 cases.
Utah: Salt Lake City, Aug. 3-10, 1 case.
Washington: Tacoma, July 28-Aug. 4, 3 cases.
Wisconsin: Milwaukee, Aug. 3-10, 1 case.

SMALLPOX—FOREIGN.

Brazil: Pernambuco, June 15-July 15, 81 deaths; Rio de Janeiro, June 1-30, 52 deaths.
Colombia: Panama, July 29-Aug. 5, 7 cases, 1 death.
Egypt: Cairo, July 1-22, 2 deaths.
France: Marseilles, June 1-30, 4 deaths; Paris, July 20-27, 3 deaths.
Great Britain: Dundee, July 20-Aug. 3, 6 cases; Glasgow, July 27-Aug. 2, 2 cases; London, July 20-27, 11 cases.
India: Bombay, July 8-16, 6 deaths; Calcutta, July 6-13, 3 deaths; Madras, July 6-13, 8 deaths.
Italy: Messina, July 20-27, 19 cases, 16 deaths; Naples, July 14-28, 99 cases, 10 deaths.
Mexico: Mexico, July 21-28, 1 death.
Russia: Moscow, July 13-20, 4 cases, 2 deaths; Odessa, July 20-27, 3 cases; Warsaw, July 13-20, 3 deaths.
Spain: Barcelona, July 1-20, 5 deaths.
Uruguay: Montevideo, June 8-15, 12 cases.

YELLOW FEVER.

Colombia: Bocas del Toro, Aug. 2, 1 death.
Costa Rica: Port Limon, Aug. 3, 4 cases, 1 death.
Cuba: July 27-Aug. 3, Havana, 3 cases, 1 death; Marianao, 1 case, 1 death; Pinar del Rio, 1 case; Regla, 1 case, 1 death.

CHOLERA.

India: Bombay, July 6-13, 15 deaths; Calcutta, July 8-16, 2 deaths.
Java: Batavia, June 22-July 6, 63 cases, 43 deaths.

PLAGUE.

China: Hongkong, June 22-July 6, 109 cases, 107 deaths.
India: Bombay, June 8-16, 101 deaths; Calcutta, July 6-13, 16 deaths.